Technical Study for Community Choice Energy Program in Contra Costa County

Appendices

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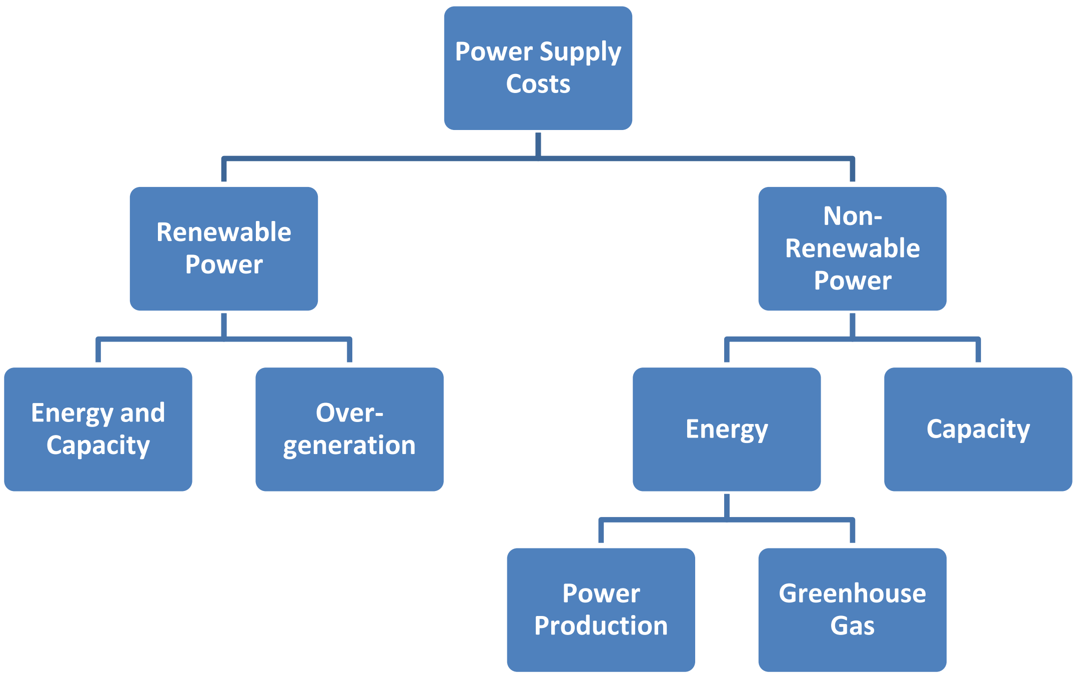
Appendix A. Loads and Forecast

2014 Load (MWh)	Residential	Commercial	Industrial	Public	Street lights + Pumping
UNINCORPORATED	454,716	252,156	237,085	63,574	19,925
CONCORD	269,024	242,584	53,969	18,228	885
PITTSBURG	145,304	134,197	225,362	14,807	1,635
ANTIOCH	270,761	109,487	18,340	18,694	1,077
SAN RAMON	172,364	140,696	32,012	14,458	4,461
BRENTWOOD	150,827	66,635	0	16,407	4,970
DANVILLE	133,085	51,478	0	11,944	1,394
MARTINEZ	86,638	61,730	6,372	6,121	1,140
PLEASANT HILL	82,411	67,087	0	5,905	1,270
OAKLEY	96,389	18,236	0	12,431	901
ORINDA	58,779	14,719	0	39,747	215
HERCULES	48,162	32,749	0	2,751	700
PINOLE	36,629	26,028	0	5,877	963
MORAGA	40,593	8,818	0	3,701	456
CLAYTON	31,795	4,759	0	1,808	661
TOTAL	**2,077,476**	**1,231,360**	**573,139**	**236,454**	**40,652**

Appendix B. Power Supply Cost

MRW has developed a bottoms-up calculation of Contra Costa County CCA's power supply costs, separately forecasting the cost of each power supply element. These elements are renewable energy, non-renewable energy (including power production costs and greenhouse gas costs), resource adequacy (RA) capacity (both renewable and non-renewable supplies) and related costs (e.g., CAISO expenses and broker fees).[1] Figure 1 illustrates the components of Contra Costa County CCA's expected supply costs.

Figure 1: Power Supply Cost Forecast



Renewable Power Cost Forecast

MRW developed a forecast of renewable generation prices starting from an assessment of the current market price for renewable power. For the current market price, MRW relied on wind and solar contract prices reported by California municipal utilities and Community Choice Aggregation (CCA) entities in 2015 and early 2016, finding an average price of $52 per MWh for these contracts.[2]

[1] MRW included a 5.5% adder in the power supply cost for CAISO costs (ancillary services, etc.), and a 5% premium for contracted supplies to reflect broker fees and similar expenses.

[2] MRW relied exclusively on prices from municipal utilities and CCAs because investor-owned utility contract prices from this period are not yet public. We included all reported wind and solar power purchase agreements, excluding local builds (which generally come at a price premium), as reported in California Energy Markets, an

To forecast the future price of renewable purchases, MRW considered a number of factors:

- Researchers from the National Renewable Energy Laboratory (NREL) and Lawrence Berkeley National Laboratory (LBNL) developed a set of forecasts of utility-scale solar costs based on market data and preliminary data from other research efforts.[3] Their base case forecast predicts a 3.8% annual decline in utility-scale solar capital costs on a nominal basis, from $1,932/kW-DC in 2016 to $1,652/kW-DC in 2020, with costs then remaining roughly constant in nominal dollars through 2030.[4] Additional scenarios predict even steeper price declines, with the most aggressive scenario predicting an 11% annual nominal decline through 2020, with increases at the rate of inflation after that.
- The federal Investment Tax Credit (ITC), which is commonly used by solar developers, is scheduled to remain at its current level of 30% through 2019 and then to fall over three years to 10%, where it is to remain.[5] The federal Production Tax Credit, which is commonly used by wind developers, is scheduled to be reduced for facilities commencing construction in 2017-2019 and eliminated for subsequent construction.[6] The loss of these credits would put upward pressure on prices.
- NREL and LBNL researchers predicted in 2015 that the cost increase associated with an ITC reduction would be roughly offset by other solar cost reductions even if the full reduction to 10% were to be implemented by 2018, rather than spread out through 2022 as is currently planned.[7]
- Lawrence Berkeley National Laboratory researchers conducted a study anticipating a reduction of the wind costs of 24% by 2030 and 35% by 2050.[8]

independent news service from Energy Newsdata, from January 2015-January 2016 (see issues dated July 31, August 14, October 16, October 30, 2015, and January 15, 2016).

[3] National Renewable Energy Laboratory. Impact of Federal Tax Policy on Utility-Scale Solar Deployment Given Financing Interactions, September 28, 2015, Slide 16. http://www.nrel.gov/docs/fy16osti/65014.pdf

[4] Ibid. Costs converted to nominal dollars using the inflation forecast used throughout the rate forecast model (U.S. EIA's forecast of the Gross Domestic Product Implicit Price Deflator).

[5] U.S. Department of Energy. Business Energy Investment Tax Credit (ITC). http://energy.gov/savings/business-energy-investment-tax-credit-itc

[6] U.S. Department of Energy. Electricity Production Tax Credit (PTC). http://energy.gov/savings/renewable-electricity-production-tax-credit-ptc

[7] National Renewable Energy Laboratory. Impact of Federal Tax Policy on Utility-Scale Solar Deployment Given Financing Interactions, September 28, 2015, Slide 28.

[8] Lawrence Berkeley National Laboratory . Expert elicitation survey on future wind and energy costs. Nature Energy, September 12th, 2016.

- The production tax credit has been extended six times from 2000-2014,[9] and the solar ITC has been extended three times since 2007.[10] Further tax credit extensions are therefore plausible.
- The major California investor-owned utilities have significantly slowed their renewable procurement because lower-than-expected customer sales and higher-than-expected contracting success rates have led to procurement in excess of the RPS requirements through 2020. When the utilities start ramping their procurement back up to meet the 50%-by-2030 RPS requirement, the supply-demand balance in the market may shift, resulting in higher-than-expected prices unless an increase in suppliers and development opportunities matches the increase in demand.

Given the potential upward price pressures from tax credits that are currently expected to expire and from higher demand for renewable power to meet the 50%-by-2030 requirement and the potential downward price pressures from falling renewable development costs, the possibility for lower cost procurement through the use of RECs, and the possibility that the expiry of the tax credits will be further delayed, it is unclear whether renewable prices will continue to fall (as NREL, LBNL, and others are predicting) or will start to stabilize and rise.

MRW has addressed this uncertainty by considering two scenarios for this sensitivity case:

- In the solar base renewable cost forecast, MRW used the $48.5 per MWh average price of recent municipal utility and CCA solar contracts as the price through 2022 (in nominal dollars), which will increase with inflation in subsequent years. This results in a solar price of $57 per MWh in 2030, and of $67 per MWh in 2038. In the wind base renewable cost forecast, MRW used the $55.0 per MWh average price of recent municipal utility and CCA solar contracts as starting point, and extended it applying an annual decrease of 2% through 2030 and 1% through 2038, offset by inflation. This results in a wind price of $57 per MWh in 2030, and of $62 per MWh in 2038.
- In the high renewable cost scenario, MRW increased both wind and solar base case prices to account for the expected expiration of the tax credits, resulting in average a price of $75 per MWh in 2030 and $86 per MWh in 2038. These scenarios provide a reasonable window of renewable price projections based on current market conditions and analysts' expectations.

MRW used these same renewable prices to calculate PG&E's renewable power costs. However, as described in Appendix B in the PG&E forecast, these renewable energy prices are used only

[9] Union of Concerned Scientists. Production Tax Credit for Renewable Energy. http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/production-tax-credit-for.html

[10] Solar Energy Industries Association. Solar Investment Tax Credit. http://www.seia.org/policy/finance-tax/solar-investment-tax-credit; and U.S. Department of Energy. Business Energy Investment Tax Credit (ITC). http://energy.gov/savings/business-energy-investment-tax-credit-itc

for incremental power that is needed above PG&E's existing RPS contracts. For Contra Costa County CCA, these prices are used as the basis for its entire RPS-eligible portfolio.

MRW additionally included a premium for the portion of Contra Costa County CCA's RPS portfolio assumed in each scenario to be located in Contra Costa County County. While solar energy is anticipated to provide the largest share of incremental supply located in-county, the solar resource in Contra Costa County is not as strong as in the areas being developed to supply the contracts discussed above. As a result, the cost of solar generation in Contra Costa County is expected to be higher than the assumed contract prices for non- Contra Costa County supplies. Based on information provided in the CPUC's current RPS calculator, combined with SAGE inputs (performance assumptions and capital cost of the projects[11]), the current cost for solar generation in Contra Costa County is expected to be approximately $98 per MWh. In addition, it is assumed the local solar generation cost will scale with installed capacity.

Non-Renewable Energy Cost Forecast

MRW separated the costs of non-renewable energy generation into two components: power production costs and greenhouse gas costs. The forecast methodologies for these cost elements, described below, are consistent with the forecast methodologies used for these cost elements in the PG&E rate forecast.

Since natural gas generation is typically on the margin in the California wholesale power market, power production costs for market power are driven by the price for natural gas. MRW forecasted natural gas prices based on current NYMEX market futures prices for natural gas, projected long-term natural gas prices in the EIA's *2016 Annual Energy Outlook*,[12] and PG&E's tariffed natural gas transportation rates.[13] MRW used a standard methodology of multiplying the natural gas price by the expected heat rate for a gas-fired unit and adding in variable operations and maintenance costs to calculate total power production costs.

In addition to power production costs, the cost of energy generated in or delivered to California also includes the cost of greenhouse gas allowances that, per the state's cap-and-trade program, must be procured to cover the greenhouse gases emitted by the energy generation. MRW estimated the price of GHG allowances to equal the auction floor price stipulated by the ARB's cap-and-trade regulation, consistent with recent auction outcomes.[14] MRW estimated the

[11] Capital cost for local solar projects in Contra Costa County, according to SAGE price curve, is $1,350 per kW installed for the first 400MW solar installed in the county. MRW calculated the average price for the cumulative developed capacity forecast for each year (counting only 50% of the capacity of each developed project towards the cumulative total). The total $1,350for kW installed doesn't include the soft and land acquisition/opportunity costs.

[12] U.S. Energy Information Administration. "2016 Annual Energy Outlook," Table 13.

[13] Pacific Gas & Electric, Burnertip Transporation Charges. Tariff G-EG, Advice Letter 3664-G, January 2016 and Tariff G-SUR, Advice Letter 3699-G, April 2016.

[14] California Code of Regulations, Title 17, Article 5, Section 95911.

emissions rate of Contra Costa County CCA non-renewable power supply based on an estimated heat rate for market power multiplied by the emissions factor for natural gas combustion.[15]

Capacity Cost Forecast for Non-Renewable Power

To estimate Contra Costa County CCA's capacity requirements, MRW developed a forecast of Contra Costa County CCA's peak demand in each year and subtracted the net qualifying capacity credits provided by Contra Costa County CCA's renewable power purchases. This is appropriate because the renewable energy prices used in this analysis reflect prices for contracts that supply both energy and capacity. If Contra Costa County CCA purchases renewable energy via energy-only contracts, Contra Costa County CCA's need for capacity will be greater than forecasted here, but these higher costs will be fully offset by the lower costs for the renewable energy.

MRW estimated current peak demand for Contra Costa County CCA's load using the 2015 monthly bills for all the current PG&E clients in Contra Costa County County[16] and PG&E's class-average load profiles. We forecasted changes to this peak demand based on the Contra Costa load forecast.[17] We calculated capacity requirements as 115% of the expected peak demand in order to include sufficient capacity to fulfill resource adequacy requirements. We applied a consistent methodology to obtain the peak demand growth rates and capacity requirements for PG&E.

To estimate the cost of Contra Costa County CCA's capacity needs, MRW priced capacity purchases at the median price of recent Resource Adequacy purchases, escalated with inflation.[18]

To estimate the cost of Contra Costa County CCA's capacity needs, MRW considered two time periods: the period before system load-resource balance when there is excess capacity on the system, and the period following system-load resource balance when additional supply must be developed. MRW assumed a system load-resource balance year of 2030.[19] Through 2025, MRW priced capacity at the median price of recent resource adequacy purchases, escalated with inflation. MRW increased the capacity price incrementally starting in 2026 to reflect an increase in the market price for capacity during the transition from the lower near-term prices to the higher post-load-resource balance prices. MRW assumed that Contra Costa County CCA would

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[15] U.S. EIA. Electric Power Annual (EPA), February 16, 2016, Table A.3. https://www.eia.gov/electricity/annual/html/epa_a_03.html

[16] Monthly bills corresponding to 2015 for all the clients in Contra Costa County provided by PG&E.

[17] California Energy Commission. Demand Forecast. PG&E Forecast Zone Results Mid Demand Case, Sales Forecast, Central Valley Region. December 14, 2015.

[18] CPUC 2013-2014 Resource Adequacy Report Final, August 5, 2015, page 23 Table 11.

[19] According to the assumption adopted by the CPUC in December 2015 for long-term forecasting purposes, the load resource balance year was 2035. MRW opted to advance this to 2030 due to the retirement of the Diablo Canyon nuclear facility.

build its own power plant (alone or in combination with other public entities) in place of purchasing market capacity when market prices rise above the cost of a new self-build. In MRW's model, this occurs in 2030. From this point on, MRW assumed that the market price for Contra Costa County CCA's capacity would be equal to the levelized fixed cost of a new advanced combustion turbine developed by a publicly owned utility, minus levelized gross margins from energy sales. A similar methodology was used to forecast the cost of capacity for PG&E; however, PG&E's post-load-resource balance price forecast is based on the price of a combustion turbine developed by a merchant developer (see Appendix C).

Appendix C. Forecast of PG&E's Generation Rates

MRW developed a forecast of PG&E's generation rates for comparison with the rates that Contra Costa County CCA will need to charge to cover its costs of service. MRW developed the forecast for the years 2018-2038 using publicly available inputs, including cost and procurement data from PG&E, market price data, and data from California state regulatory agencies and the U.S. Energy Information Administration. The structure of the rate forecast model and the basic assumptions and inputs used are described below.

Generation Charges

PG&E's generation costs fall into four broad categories: (1) renewable generation costs, (2) fixed costs of non-renewable utility-owned generation, (3) fuel and purchased power costs for non-renewable generation, and (4) capacity costs. Each of these categories is evaluated separately in the rate forecast model, and underlying these forecasts is a forecast of PG&E's generation sales.

Sales Forecast

PG&E's generation cost forecast is driven in large part by the amount of generation that PG&E will need to obtain to meet customer demand. To forecast PG&E's electricity sales, MRW started with the 2016-2030 sales forecast that PG&E provided in its August 2016 Renewable Energy Procurement Plan ("RPS Plan") filing with the CPUC.[20] This forecast predicts an 8% annual sales reduction through 2020, a 2% reduction per year from 2021-2028, and a rather anemic sales growth of 0.2% per year from 2029-2030.[21] MRW extended the sales forecast through 2038, maintaining this 0.2% increase per year.

Renewable Generation

The starting point for MRW's analysis is PG&E's "RPS Plan," in which PG&E discusses its plan for meeting California's Renewable Portfolio Standard (RPS) targets and provides the annual amount and cost of renewable generation currently under contract through 2030. PG&E's RPS Plan shows that PG&E's current renewable procurement is in excess of the RPS requirement in each year through 2026. After 2022, PG&E's renewable generation from current contracts falls below the RPS requirements, but PG&E is projected to have enough banked Renewable Energy Credits (RECs) from excess renewable procurement in prior years to meet the RPS requirements until 2034.

[20] Pacific Gas & Electric. *Renewables Portfolio Standard 2016 Renewable Energy Procurement Plan (Draft Version).* August 8, 2016. Appendix D.

[21] The near-term decline in sales in PG&E's forecast is likely attributable to the growth in CCA, in which a municipality procures electric power on behalf of its constituents instead of having them purchase their power from PG&E. While customers in the jurisdictions of these municipalities have the option to opt-out of CCA and to continue to procure power from PG&E, so far, most CCA-eligible customers have not elected for this option. CCA customers continue to procure electricity delivery services from PG&E; it is only generation services that they obtain through the CCA.

MRW adopted PG&E's RPS Plan forecast of the amount and cost of renewable generation that is currently under contract. For the period starting in 2034 when PG&E's RPS Plan shows a need for incremental renewable procurement to meet RPS requirements, MRW added in the necessary renewable generation to meet current statutory requirements (i.e., 33% of procurement in 2020, increasing to 50% of procurement in 2030, and to 55% of procurement in 2031).[22] To project PG&E's cost of this incremental renewable generation, MRW used the same renewable prices used for Contra Costa County CCA's renewable power cost forecast (see Appendix B).

Fixed Cost of Non-Renewable Utility-Owned Generation

PG&E's rates include payment for the fixed costs of the PG&E-owned non-renewable generation facilities, which are primarily natural gas, nuclear, and hydroelectric power plants. Because these costs are not tied to the volume of electricity that PG&E sells, their annual escalation is not driven by the price of fuel and other variable inputs. Instead, they escalate at a rate that stems from a combination of cost increases and depreciation reductions. These escalation rates are determined in General Rate Case (GRC) proceedings, which occur roughly every three years.

As a starting point for the forecast, MRW used the proposed 2017 fixed costs for these facilities.[23] For the period between 2018 and 2020, MRW increased the fixed cost based on PG&E's 2017 GRC settlements.[24] For subsequent years, MRW estimated in the base case that PG&E's generation fixed costs would increase by the 6.2% annual average growth rate approved and implemented for these cost over the last ten years.[25] These escalation rates are in nominal dollars (i.e., some of the escalation is accounted for by inflation).

[22] MRW additionally allowed for the purchase of additional renewable generation when renewable prices are below market prices, subject to some purchase limits, including a 50% cap on renewable generation relative to the entire generation portfolio. This leads to additional renewable purchases from 2027-2029 in the Low Renewable Price scenario. Starting in 2030, the RPS requirement is 50%, and no additional renewable purchases are allowed, per the rules of the model, in order to maintain grid reliability.

[23] Pacific Gas & Electric. Annual Electric True-Ups for 2017. Advice Letter 4902 E-A. September 13, 2016. Table 2 and Pacific Gas & Electric 2017 GRC Settlements, A.15-09-001, Appendix A and B.

[24] Pacific Gas & Electric 2017 GRC Settlements, A.15-09-001, Appendix A and B

[25] Historic growth rates calculated from Pacific Gas & Electric Advice Letters 2706-E-A, AL 3773-E, 4459-E, 4647-E, and 4755-E. New power plant costs were excluded from these calculations since costs of new plants are offset, at least in part, by a reduction in fuel and purchased power costs.

Table 1: PG&E's Generation Fixed Costs, 2011-2016[26]
(Nominal $ Million)

	2011	2012	2013	2014	2015	2016
Generation Fixed Costs	1,400	1,530	1,550	1,710	1,860	1,840
Annual Cost Increase		9%	1%	10%	9%	-1%

MRW made adjustments to this GRC forecast to account for the retirement of the Diablo Canyon nuclear units at the end of the units' current licenses in 2024 and 2025.

Fuel and Purchased Power Costs for Non-Renewable Generation

Each spring, PG&E files a forecast with the CPUC of its fuel and purchased power costs for the upcoming year in its "ERRA" filing, which PG&E updates and finalizes in November. MRW relied on PG&E's November 2017 ERRA testimony,[27] adjusted to remove renewable generation costs, as the starting point for the forecast of fuel and purchased power costs for PG&E's non-renewable generation.

To escalate these costs through the forecast period, MRW forecasted changes to natural gas prices and greenhouse gas cap-and-trade program compliance costs, which are the major drivers of change to these costs. The natural gas price forecast is based on current NYMEX market futures prices for natural gas, forecasted natural gas prices in the U.S. EIA's 2016 *Annual Energy Outlook*, and PG&E's tariffed natural gas transportation rates. This forecast is the same forecast used in the forecast of Contra Costa County CCA's wholesale power costs (see Appendix B).

Cap-and-trade program compliance costs are estimated based on (1) PG&E's forecast of carbon dioxide emissions in 2017;[28] (2) a forecast of PG&E's fossil generation supply, developed by subtracting expected renewable, hydroelectric, and nuclear generation from PG&E's projected wholesale power requirement; and (3) a forecast of greenhouse gas allowance prices. The greenhouse gas allowance price forecast is the same as used in the forecast of Contra Costa County CCA wholesale power costs and is based on the auction floor price stipulated by the ARB's cap-and-trade regulation (see Appendix B).

[26] 2011-2013: CPUC Decision 11-05-018, pages 2 and 15; and 2014-2016: CPUC Decision 14-08-032, Appendix C, Table 1 and Appendix D, Table 1.

[27] PG&E Update To Prepared 2017 Energy Resource Recovery Account and Generation Non-Bypassable Charges Forecast and Greenhouse Gas Forecast Revenue and Reconciliation, filed with the CPUC in proceeding A.16-06-003 on Nov 2, 2016, Table 11-3.

[28] PG&E Update To Prepared 2017 Energy Resource Recovery Account and Generation Non-Bypassable Charges Forecast and Greenhouse Gas Forecast Revenue and Reconciliation, filed with the CPUC in proceeding A.16-06-003 on Nov 2, 2016, Table 12-2.

The MRW rate model calculates total fuel and purchased power costs by escalating natural gas prices based on the natural gas price forecast described above, escalating nuclear fuel prices based on the EIA forecast of fuel costs for nuclear plants, escalating water costs for hydroelectric projects and the capacity costs of power purchase contracts with inflation, and pricing market power at the same market power price used for Contra Costa County CCA's purchases. The model then sums the cost for each of these resources and adds in projected cap-and-trade compliance costs to this total cost.

Capacity Costs

PG&E must procure capacity to meet 115% of its anticipated peak demand in order to fulfill its resource adequacy requirement. PG&E's own power plants can be used to meet this requirement, as can power plants with which PG&E has contracts.

To estimate PG&E's capacity requirements, MRW started with the Capacity Supply Plan that PG&E submitted to the California Energy Commission in 2015,[29] which forecasts PG&E's peak demand and existing capacity resources for each of the years 2013-2024. With limited exception,[30] MRW used PG&E's data where publicly available and extended the forecasts to 2038. In extending these forecasts, we used assumptions that are consistent with those used in our assessments of energy sales and costs, including load growth escalation and the projected retirement of PG&E's nuclear plant. We also added in anticipated capacity from new renewable procurement and from new energy storage and adjusted the calculation to account for the portion of Resource Adequacy credits that is allocated to non-bundled customers.

As with the Contra Costa County CCA's capacity cost forecast, MRW priced capacity at the median price of recent Resource Adequacy capacity sales, escalated with inflation.[31]

Rate Development

Following the methodologies described above, MRW developed a forecast of PG&E's generation revenue requirement and divided these expenses by the expected PG&E sales in order to obtain a forecast of the system-average generation rate. We calculated annual escalators based on these system-average rates and applied them to the generation rates that are currently in effect for each customer class.[32]

[29] California Energy Commission, Energy Almanac, Utility Capacity Supply Plans from 2015. September 4, 2015

[30] The two main exceptions are that 1) MRW increased energy efficiency and demand response growth to comply with SB 350 requirements to double energy efficiency by 2030 and the anticipated continuation of CPUC demand response initiatives, and 2) MRW accounted for the energy efficiency and renewable capacity expected to be installed because of the Diablo Canyon retirement application.

[31] CPUC 2013-2014 Resource Adequacy Report Final, August 5, 2015, page 23 Table 11.

[32] PG&E Advice Letter AL-4805-E, effective March 24, 2016.

Appendix D. Detailed CCA Rates

Case-Legend	
Base	BASE
Low participation	LP
High price local	LOC
High renewable prices	RPS
High natural gas price	GAS
Low PG&E portfolio costs	LPGE
High PCIA	PCIA
Stress Scenario	STRS

Scenario	Sensitivity Case	Rates (¢/kWh)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
1	BASE	CCA gen	7.0	7.1	7.1	7.4	7.6	7.8	7.9	8.0	8.4	8.8	9.3	9.9	10.5	10.8	11.1	11.4	11.7	12.0	12.4	12.7	13.1
1	BASE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1	BASE	CCA Res Fund	0.8	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	BASE	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
1	LP	CCA gen	7.1	7.2	7.2	7.5	7.7	7.9	8.0	8.1	8.5	8.9	9.4	9.9	10.5	10.8	11.1	11.4	11.8	12.1	12.4	12.8	13.2
1	LP	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1	LP	CCA Res Fund	0.6	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	LP	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
1	LOC	CCA gen	7.0	7.1	7.1	7.4	7.6	7.8	7.9	8.0	8.4	8.8	9.3	9.9	10.5	10.8	11.1	11.4	11.7	12.0	12.4	12.7	13.1
1	LOC	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1	LOC	CCA Res Fund	0.8	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	LOC	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
1	RPS	CCA gen	7.1	7.2	7.3	7.8	8.1	8.5	8.6	8.8	9.2	9.7	10.2	10.8	11.4	11.8	12.2	12.5	12.9	13.2	13.6	14.0	14.4
1	RPS	Exit fees	2.4	1.9	2.3	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.6	0.5	0.5	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0
1	RPS	CCA Res Fund	0.7	0.7	0.4	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	RPS	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.5	11.4	11.1	11.5	12.2	12.9	13.8	14.9	15.7	16.5	17.3	17.3	17.8	18.4	18.7	19.4
1	GAS	CCA gen	8.1	8.5	8.8	9.2	9.5	9.4	9.4	9.6	10.0	10.4	10.8	11.3	11.9	12.3	12.6	12.9	13.3	13.7	14.2	14.6	15.0
1	GAS	Exit fees	2.2	2.6	2.7	2.8	2.6	3.4	2.4	1.7	0.8	0.7	0.7	0.6	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
1	GAS	CCA Res Fund	0.2	-0.1	0.0	0.0	0.0	0.0	0.0	1.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	GAS	PG&E gen	10.5	10.9	11.0	11.4	11.9	11.0	11.3	11.8	12.3	12.9	13.5	14.3	15.3	15.4	15.8	16.2	16.7	17.1	17.7	18.3	19.0
1	LPGE	CCA gen	7.0	7.1	7.1	7.4	7.6	7.8	7.9	8.0	8.4	8.8	9.3	9.9	10.5	10.8	11.1	11.4	11.7	12.0	12.4	12.7	13.1
1	LPGE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1	LPGE	CCA Res Fund	0.0	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	LPGE	PG&E gen	9.1	9.5	9.6	10.1	10.4	10.2	10.2	9.8	10.2	10.7	11.4	12.1	13.0	13.2	13.6	14.0	14.5	14.9	15.3	15.8	16.4
1	PCIA	CCA gen	7.0	7.1	7.1	7.4	7.6	7.8	7.9	8.0	8.4	8.8	9.3	9.9	10.5	10.8	11.1	11.4	11.7	12.0	12.4	12.7	13.1
1	PCIA	Exit fees	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

1	PCIA	CCA Res Fund	0.8	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1	PCIA	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
1	STRS	CCA gen	8.2	8.7	9.1	9.6	9.9	10.1	10.2	10.3	10.8	11.2	11.7	12.3	12.9	13.3	13.7	14.1	14.6	15.0	15.4	15.9	16.4
1	STRS	Exit fees	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
1	STRS	CCA Res Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	STRS	PG&E gen	9.4	9.8	9.9	10.2	10.7	9.9	10.2	10.6	11.3	11.8	12.4	13.2	14.0	14.3	14.8	15.3	15.7	16.2	16.8	17.4	18.1

Scenario	Sensitivity Case	Rates (¢/kWh)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
2	BASE	CCA gen	7.2	7.3	7.3	7.6	7.8	8.0	8.0	8.3	8.6	9.1	9.5	10.0	10.6	10.8	11.1	11.3	11.6	11.9	12.1	12.4	12.7
2	BASE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
2	BASE	CCA Res Fund	0.6	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	BASE	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
2	LP	CCA gen	7.3	7.4	7.4	7.6	7.8	8.1	8.1	8.3	8.7	9.1	9.6	10.1	10.6	10.9	11.1	11.4	11.7	11.9	12.2	12.5	12.8
2	LP	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
2	LP	CCA Res Fund	0.5	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	LP	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
2	LOC	CCA gen	7.2	7.3	7.3	7.6	7.8	8.0	8.0	8.3	8.6	9.1	9.5	10.0	10.6	10.8	11.1	11.3	11.6	11.9	12.1	12.4	12.7
2	LOC	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
2	LOC	CCA Res Fund	0.6	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	LOC	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
2	RPS	CCA gen	7.3	7.5	7.6	8.2	8.5	9.1	9.2	9.5	10.0	10.5	11.0	11.6	12.3	12.5	12.8	13.1	13.4	13.7	14.0	14.4	14.7
2	RPS	Exit fees	2.4	1.9	2.3	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.6	0.5	0.5	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0
2	RPS	CCA Res Fund	0.5	0.9	0.4	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
2	RPS	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.5	11.4	11.1	11.5	12.2	12.9	13.8	14.9	15.7	16.5	17.3	17.3	17.8	18.4	18.7	19.4
2	GAS	CCA gen	8.0	8.3	8.7	9.0	9.3	8.9	9.0	9.2	9.6	9.9	10.3	10.8	11.3	11.6	11.9	12.2	12.5	12.8	13.1	13.4	13.8
2	GAS	Exit fees	2.2	2.6	2.7	2.8	2.6	3.4	2.4	1.7	0.8	0.7	0.7	0.6	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
2	GAS	CCA Res Fund	0.3	0.0	-0.1	0.0	1.4	-1.4	0.0	1.4	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
2	GAS	PG&E gen	10.5	10.9	11.0	11.4	11.9	11.0	11.3	11.8	12.3	12.9	13.5	14.3	15.3	15.4	15.8	16.2	16.7	17.1	17.7	18.3	19.0
2	LPGE	CCA gen	7.2	7.3	7.3	7.6	7.8	8.0	8.0	8.3	8.6	9.1	9.5	10.0	10.6	10.8	11.1	11.3	11.6	11.9	12.1	12.4	12.7
2	LPGE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
2	LPGE	CCA Res Fund	0.0	1.1	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	LPGE	PG&E gen	9.1	9.5	9.6	10.1	10.4	10.2	10.2	9.8	10.2	10.7	11.4	12.1	13.0	13.2	13.6	14.0	14.5	14.9	15.3	15.8	16.4
2	PCIA	CCA gen	7.2	7.3	7.3	7.6	7.8	8.0	8.0	8.3	8.6	9.1	9.5	10.0	10.6	10.8	11.1	11.3	11.6	11.9	12.1	12.4	12.7
2	PCIA	Exit fees	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

2	PCIA	CCA Res Fund	0.6	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2	PCIA	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
2	STRS	CCA gen	8.2	8.6	9.0	9.7	9.9	10.1	10.2	10.5	10.9	11.4	11.9	12.4	13.0	13.4	13.7	14.0	14.4	14.7	15.1	15.4	15.8
2	STRS	Exit fees	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
2	STRS	CCA Res Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	STRS	PG&E gen	9.4	9.8	9.9	10.2	10.7	9.9	10.2	10.6	11.3	11.8	12.4	13.2	14.0	14.3	14.8	15.3	15.7	16.2	16.8	17.4	18.1

Scenario	Sensitivity Case	Rates (¢/kWh)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
3	BASE	CCA gen	7.1	7.2	7.4	7.8	8.1	8.5	8.7	9.0	9.6	10.3	10.8	11.4	12.0	12.4	12.7	13.1	13.4	13.7	14.1	14.4	14.8
3	BASE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
3	BASE	CCA Res Fund	0.7	0.7	0.4	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	BASE	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
3	LP	CCA gen	7.2	7.4	7.5	7.9	8.2	8.6	8.8	9.1	9.6	10.3	10.8	11.4	12.0	12.4	12.7	13.1	13.4	13.7	14.1	14.4	14.8
3	LP	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
3	LP	CCA Res Fund	0.6	0.8	0.4	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	LP	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
3	LOC	CCA gen	7.1	7.3	7.5	7.9	8.3	8.8	9.1	9.4	10.1	10.8	11.4	12.0	12.6	13.0	13.4	13.8	14.1	14.5	14.8	15.1	15.5
3	LOC	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
3	LOC	CCA Res Fund	0.7	0.8	0.4	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	LOC	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
3	RPS	CCA gen	7.1	7.4	7.6	8.2	8.6	9.3	9.6	10.0	10.6	11.4	12.0	12.6	13.4	13.8	14.2	14.7	15.0	15.4	15.8	16.1	16.5
3	RPS	Exit fees	2.4	1.9	2.3	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.6	0.5	0.5	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0
3	RPS	CCA Res Fund	0.6	0.8	0.4	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	RPS	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.5	11.4	11.1	11.5	12.2	12.9	13.8	14.9	15.7	16.5	17.3	17.3	17.8	18.4	18.7	19.4
3	GAS	CCA gen	8.1	8.6	9.0	9.5	9.8	10.1	10.3	10.6	11.2	11.8	12.3	12.9	13.5	13.9	14.3	14.7	15.1	15.5	15.9	16.3	16.7
3	GAS	Exit fees	2.2	2.6	2.7	2.8	2.6	3.4	2.4	1.7	0.8	0.7	0.7	0.6	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
3	GAS	CCA Res Fund	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	GAS	PG&E gen	10.5	10.9	11.0	11.4	11.9	11.0	11.3	11.8	12.3	12.9	13.5	14.3	15.3	15.4	15.8	16.2	16.7	17.1	17.7	18.3	19.0
3	LPGE	CCA gen	7.1	7.2	7.4	7.8	8.1	8.5	8.7	9.0	9.6	10.3	10.8	11.4	12.0	12.4	12.7	13.1	13.4	13.7	14.1	14.4	14.8
3	LPGE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
3	LPGE	CCA Res Fund	0.0	1.1	-0.1	0.6	0.1	0.1	0.0	-0.5	-0.3	-0.3	-0.1	1.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	LPGE	PG&E gen	9.1	9.5	9.6	10.1	10.4	10.2	10.2	9.8	10.2	10.7	11.4	12.1	13.0	13.2	13.6	14.0	14.5	14.9	15.3	15.8	16.4
3	PCIA	CCA gen	7.1	7.2	7.4	7.8	8.1	8.5	8.7	9.0	9.6	10.3	10.8	11.4	12.0	12.4	12.7	13.1	13.4	13.7	14.1	14.4	14.8
3	PCIA	Exit fees	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

3	PCIA	CCA Res Fund	0.7	0.7	0.4	0.1	0.1	0.1	0.0	-0.5	-0.7	-0.2	0.0	0.0	1.8	-0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
3	PCIA	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
3	STRS	CCA gen	8.3	8.9	9.4	10.1	10.5	11.2	11.6	12.0	12.8	13.6	14.2	14.9	15.6	16.2	16.7	17.2	17.6	18.1	18.5	19.0	19.5
3	STRS	Exit fees	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
3	STRS	CCA Res Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	STRS	PG&E gen	9.4	9.8	9.9	10.2	10.7	9.9	10.2	10.6	11.3	11.8	12.4	13.2	14.0	14.3	14.8	15.3	15.7	16.2	16.8	17.4	18.1

Scenario	Sensitivity Case	Rates (¢/kWh)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
4	BASE	CCA gen	7.3	7.6	7.8	8.3	8.7	9.2	9.6	10.3	11.1	12.0	12.6	13.2	13.9	14.1	14.4	14.6	14.9	15.2	15.5	15.7	16.1
4	BASE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
4	BASE	CCA Res Fund	0.4	0.9	0.4	0.1	0.1	0.1	0.1	-0.6	-0.7	-0.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
4	BASE	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
4	LP	CCA gen	7.5	7.7	7.9	8.3	8.8	9.3	9.6	10.3	11.0	11.9	12.5	13.1	13.7	14.0	14.2	14.5	14.8	15.0	15.3	15.6	15.9
4	LP	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
4	LP	CCA Res Fund	0.3	1.0	0.4	0.1	0.1	0.1	0.1	-0.6	-0.6	-0.2	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
4	LP	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
4	LOC	CCA gen	7.4	7.7	8.0	8.5	9.1	9.7	10.2	11.0	11.9	12.9	13.6	14.2	15.0	15.2	15.5	15.8	16.1	16.3	16.6	16.9	17.2
4	LOC	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
4	LOC	CCA Res Fund	0.4	1.0	0.4	0.1	0.1	0.1	-0.3	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.1	0.1	0.1	0.1
4	LOC	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
4	RPS	CCA gen	7.4	7.8	8.1	8.9	9.6	10.6	11.1	11.9	12.9	14.0	14.7	15.4	16.3	16.6	16.9	17.2	17.5	17.9	18.2	18.5	18.9
4	RPS	Exit fees	2.4	1.9	2.3	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.6	0.5	0.5	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0
4	RPS	CCA Res Fund	0.4	1.0	0.5	0.1	0.1	-0.6	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.1	0.1
4	RPS	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.5	11.4	11.1	11.5	12.2	12.9	13.8	14.9	15.7	16.5	17.3	17.3	17.8	18.4	18.7	19.4
4	GAS	CCA gen	8.1	8.6	9.0	9.6	9.9	10.2	10.6	11.3	12.1	13.0	13.5	14.1	14.7	15.0	15.3	15.7	16.0	16.3	16.6	17.0	17.3
4	GAS	Exit fees	2.2	2.6	2.7	2.8	2.6	3.4	2.4	1.7	0.8	0.7	0.7	0.6	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
4	GAS	CCA Res Fund	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
4	GAS	PG&E gen	10.5	10.9	11.0	11.4	11.9	11.0	11.3	11.8	12.3	12.9	13.5	14.3	15.3	15.4	15.8	16.2	16.7	17.1	17.7	18.3	19.0
4	LPGE	CCA gen	7.3	7.6	7.8	8.3	8.7	9.2	9.6	10.3	11.1	12.0	12.6	13.2	13.9	14.1	14.4	14.6	14.9	15.2	15.5	15.7	16.1
4	LPGE	Exit fees	2.4	1.9	2.3	1.7	1.7	1.6	1.5	1.3	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
4	LPGE	CCA Res Fund	0.0	1.1	-0.5	1.0	0.1	-0.5	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.1
4	LPGE	PG&E gen	9.1	9.5	9.6	10.1	10.4	10.2	10.2	9.8	10.2	10.7	11.4	12.1	13.0	13.2	13.6	14.0	14.5	14.9	15.3	15.8	16.4
4	PCIA	CCA gen	7.3	7.6	7.8	8.3	8.7	9.2	9.6	10.3	11.1	12.0	12.6	13.2	13.9	14.1	14.4	14.6	14.9	15.2	15.5	15.7	16.1
4	PCIA	Exit fees	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

4	PCIA	CCA Res Fund	0.4	0.9	0.4	0.1	0.1	-0.2	-0.6	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	PCIA	PG&E gen	10.1	10.6	10.7	11.3	11.6	11.4	11.3	10.9	11.3	11.9	12.6	13.4	14.4	14.7	15.1	15.6	16.1	16.5	17.1	17.6	18.3
4	STRS	CCA gen	8.4	9.0	9.6	10.5	11.2	12.1	12.7	13.7	14.8	16.1	16.8	17.5	18.3	18.7	19.0	19.4	19.8	20.2	20.6	21.0	21.4
4	STRS	Exit fees	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
4	STRS	CCA Res Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	STRS	PG&E gen	9.4	9.8	9.9	10.2	10.7	9.9	10.2	10.6	11.3	11.8	12.4	13.2	14.0	14.3	14.8	15.3	15.7	16.2	16.8	17.4	18.1

Appendix E. Greenhouse Gas Emissions and Costs

In Chapter 3 of the report, MRW provided an estimate of Contra Costa County CCA's annual Greenhouse Gas (GHG) emissions and compared these with the emissions for the same load under the PG&E supply portfolio. The methodology used to calculate both figures is included in this appendix, along with an estimate of Contra Costa County CCA's cost of emissions from purchased power ("indirect emissions").

Methodology for calculating Contra Costa County CCA's indirect GHG emissions

GHG emissions for Contra Costa County CCA will be indirect since the CCA does not plan to generate its own power (*i.e.,* the emissions are embedded in fossil-fuel power that the CCA purchases). These emissions are estimated based on (1) a forecast of the emissions rate for Contra Costa County CCA's fossil generation supply and (2) a forecast of the amount of Contra Costa County CCA's fossil generation supply, developed by subtracting expected renewable and hydroelectric generation from the projected wholesale power requirement to serve the CCA's load.[33]

MRW calculated the emissions rate for Contra Costa County CCA's fossil generation supply by estimating the amount of natural gas that will need to be burned to generate the CCA's fossil generation and the GHG emissions rate for natural gas combustion.[34] The amount of natural gas needed was estimated based on the average heat rate for the marginal generation plants on the CAISO system. MRW used public data from CAISO's OASIS platform and Platt's Gas Daily reports to calculate this average heat rate for 2015.[35] MRW extended the forecast to 2030 using the expected changes to the average heat rate in California from the EIA's 2016 *Annual Energy Outlook.*[36]

MRW estimated the total annual GHG emissions for the Contra Costa County CCA program as a product of the total energy purchased at wholesale electric market (kWh) and the rate of GHG emissions (tonnes $CO_{2\text{-equivalent}}$/kWh).

[33] MRW assumed no GHG emissions for the renewable and hydroelectric supply.

[34] The GHG emissions rate for natural gas combustion is obtained from U.S. EIA. Electric Power Annual (EPA), February 16, 2016, Table A.3. https://www.eia.gov/electricity/annual/html/epa_a_03.html

[35] MRW calculated the average heat rate of the marginal generation plants in 2015 by dividing the monthly average wholesale electric market price, net of operations and maintenance costs and GHG emissions costs, by the monthly average natural gas price. For the electricity prices, we used the average of the 2015 hourly locational marginal price for node TH_NP15_GEN-APND; for the natural gas prices, we used the average of burnertip natural gas price for PG&E.

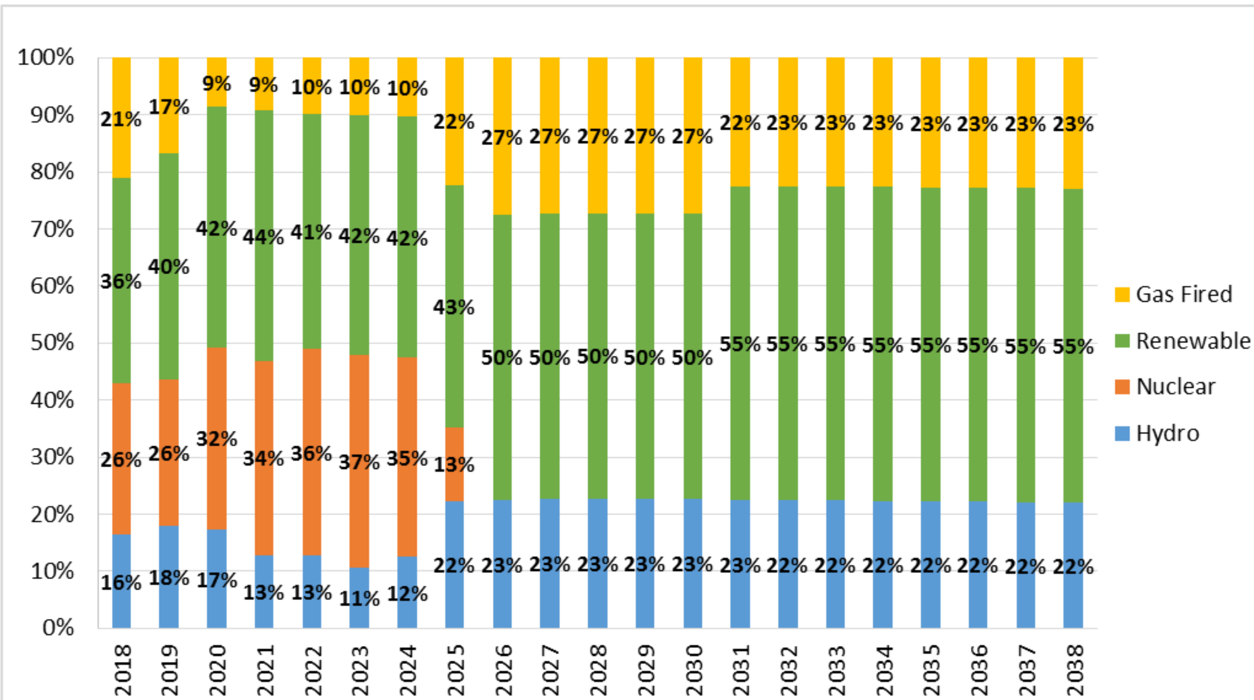
[36] U.S. Energy Information Administration. "2016 Annual Energy Outlook," Table 55.20, Western Electricity Coordinating Council. (Note that EIA does not provide a forecast of the marginal heat rate.)

Methodology for calculating GHG emissions under PG&E's supply portfolio

MRW calculated the GHG emissions for the Contra Costa County CCA load under the PG&E supply portfolio by summing the emissions from all resources in PG&E's portfolio. MRW assumed no GHG emissions from renewable power, hydroelectric power, or nuclear generation. In order to maintain a consistent comparison, MRW used the same emissions rate to calculate the emissions from PG&E's fossil-fuel power as used for the Contra Costa County CCA wholesale market purchases.

In order to support the analysis on Chapter 3 of the report, Figure 2 shows the PG&E portfolio. Before the closure of the Diablo Canyon, MRW estimated 80%-90% of PG&E's generation portfolio based on non-fuel-fired resources. After 2025, the non-fuel-fired resources share falls to 70% according MRW estimates.

Figure 2 PG&E's generation portfolio[37]



[37] Before 2025 the hydroelectric generation is below its potential because MRW estimated that PG&E sells the over-procurement in hydroelectric power. MRW has assumed a minimum of fuel-fired generation to facilitate the RPS integration according to PG&E's Diablo Canyon retirement application, A.16-08-006. Table 2-3. In addition, after 2026 MRW estimated the price of the wholesale electric market below PG&E's new RPS prices. In those conditions, according to MRW assumptions, PG&E would procure up to 50% of its portfolio from renewable resources.

GHG allowance prices and GHG indirect costs

MRW developed a forecast of the prices for GHG allowances based on the auction floor price stipulated by the ARB's cap-and-trade regulation, consistent with recent auction outcomes.[38]

Table 2 GHG Allowances price, $ per allowance[39]

	2017	2018	2019	2025	2030	2035	2038
$/tonne	13.2	14.7	15.9	24.4	34.7	49.8	61.8

MRW used these GHG allowances prices to calculate both PG&E's GHG allowances costs (direct and indirect), which are included in the PG&E rate forecast, and Contra Costa County CCA's indirect GHG costs. The indirect GHG costs for Contra Costa County CCA will be included in the cost of the wholesale market energy purchases. MRW estimated that these costs will be, on average, $12 per MWh delivered over the 2018-2038 period.

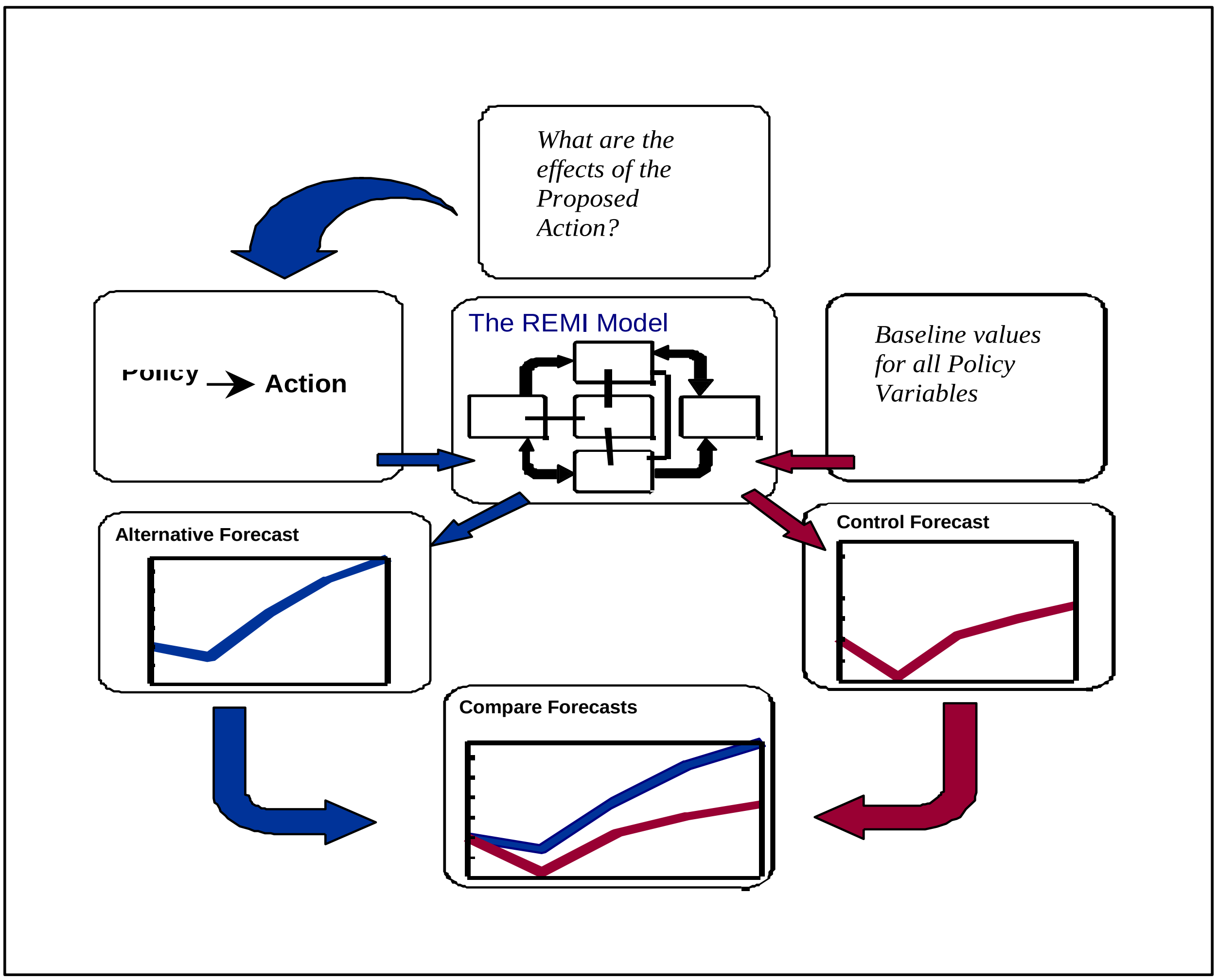
[38] California Code of Regulations, Title 17, Article 5, Section 95911.

[39] For 2017, the amount listed corresponds to the GHG allowance price for PG&E according to the most recent ERRA 2017 update. Pacific Gas & Electric ERRA 2017, A.16-06-003, Testimony November 2, 2016, Table 12-1.

Appendix F. About the REMI Policy Insight Model

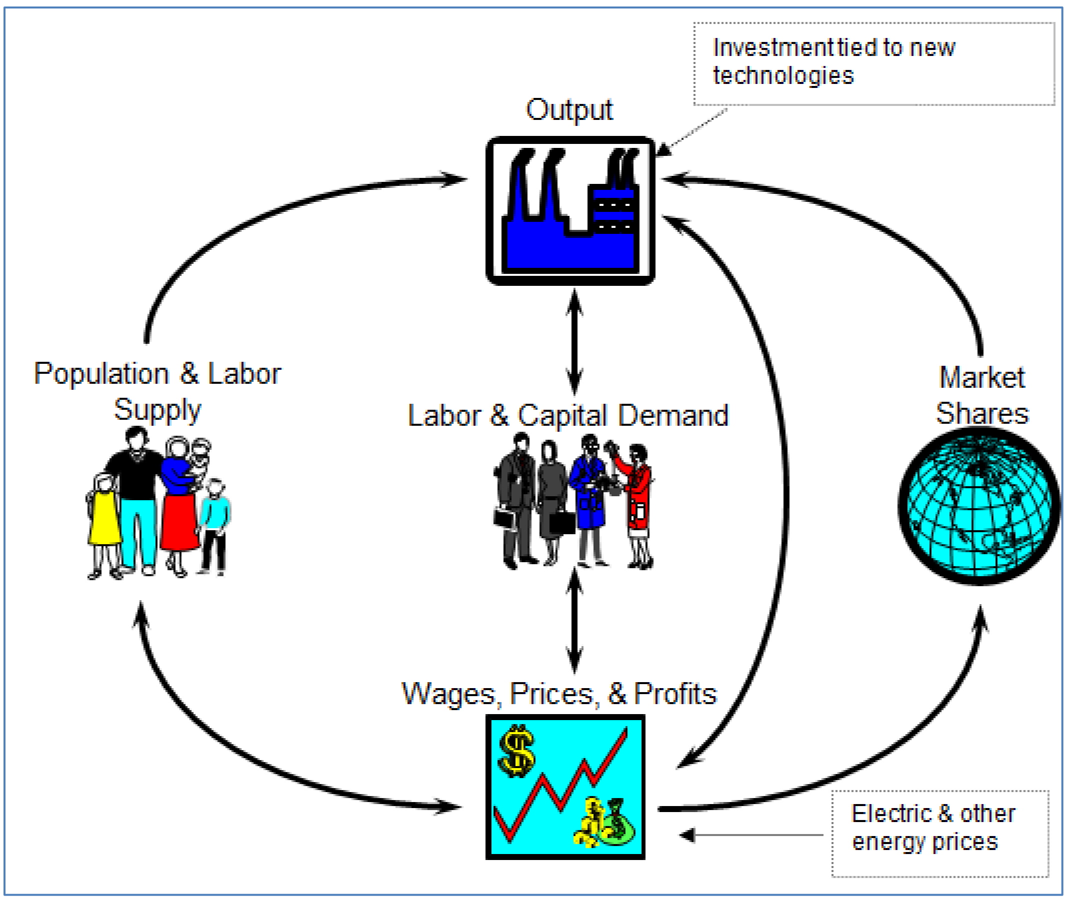
A software analysis forecasting model developed by Regional Economic Models, Inc. (REMI) of Amherst Massachusetts in the mid 1980's. It has a broad national customer base among public agencies, academic institutions, and the private-sector. It is also used in Canada (NRCan), and among other international clients. The model configuration used for this study consisted of 18 aggregate private-sector industries, plus a farm sector, a combined state/local government sector and two federal government sectors.

Economic Impacts Identified with the REMI Model



In the above figure, the central box "The REMI model" is the engine for predicting the economic and demographic dimensions of a *region-of-impact* (here Contra Costa County County) under *no-action* (or Control forecast) and with a proposed CCA (alternative forecast). The engine is a combination structural econometric model, part input-output transactions, all with general equilibrium features – meaning *an economy can encounter a disruption (positive or negative), and over time (typically 1-3 years depending on the scale of the region and the size of the shock) re-adjust back to an equilibrium*. The diagram below depicts the organization of the REMI regional model in terms of the major blocks functioning in an economy and the arrows denote the feedback accounted for. Keep in mind this portrayal is at a very high-level, sparing the industry-specific details. Scenario specific changes are inserted through policy variable *levers* into the appropriate block of the model. There is another important dimension of economic response for the key region-of-impact that effectively layers on top of the below diagram – interactions with another regional economy. That additional region - *rest of California* -was explicitly modeled at the same time. The REMI model captures the flows of monetized goods and services, and commuter labor between regions when one (or both) is *shocked* by introduction of a CCA.

Core Logic of the REMI Model



Appendix G. Proforma Tables

Scenario 1

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Expenses																					
Cost of Power (including losses)	$73,495,453	$151,069,291	$238,312,375	$248,611,457	$257,237,071	$265,886,720	$274,183,543	$279,728,463	$294,209,869	$310,824,883	$329,903,546	$350,515,984	$373,621,644	$386,946,608	$399,254,590	$411,812,091	$425,651,977	$439,658,506	$454,135,582	$468,721,683	$484,831,280
O&M/A&G Costs	$9,081,989	$11,047,477	$14,037,456	$14,312,982	$14,596,957	$14,871,929	$15,146,845	$15,425,482	$15,722,408	$16,025,074	$16,333,641	$16,648,197	$16,968,859	$17,295,746	$17,628,978	$17,968,678	$18,314,999	$18,668,042	$19,027,938	$19,394,819	$19,768,820
Energy Efficiency Programming Costs																					
Total Expenses	**$82,577,443**	**$162,116,767**	**$252,349,831**	**$262,924,440**	**$271,834,028**	**$280,758,650**	**$289,330,388**	**$295,153,945**	**$309,932,277**	**$326,849,957**	**$346,237,187**	**$367,164,181**	**$390,590,503**	**$404,242,354**	**$416,883,567**	**$429,780,769**	**$443,966,976**	**$458,326,548**	**$473,163,520**	**$488,116,502**	**$504,600,100**
Debt Service	**$0**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Revenue Requirement	**$82,577,443**	**$167,605,774**	**$257,838,838**	**$268,413,446**	**$277,323,035**	**$286,247,656**	**$289,330,388**	**$295,153,945**	**$309,932,277**	**$326,849,957**	**$346,237,187**	**$367,164,181**	**$390,590,503**	**$404,242,354**	**$416,883,567**	**$429,780,769**	**$443,966,976**	**$458,326,548**	**$473,163,520**	**$488,116,502**	**$504,600,100**
Total Load, MWh	**1,177,121**	**2,366,944**	**3,607,181**	**3,623,598**	**3,641,698**	**3,652,169**	**3,659,921**	**3,666,956**	**3,680,582**	**3,694,258**	**3,707,985**	**3,721,763**	**3,735,593**	**3,749,473**	**3,763,406**	**3,777,390**	**3,791,426**	**3,805,514**	**3,819,655**	**3,833,848**	**3,848,093**
Contra Costa CCA Customer Charges, $/MWh (before Reserve Fund Adjustment)																					
Average Contra Costa CCA generation	$70.2	$70.8	$71.5	$74.1	$76.2	$78.4	$79.1	$80.5	$84.2	$88.5	$93.4	$98.7	$104.6	$107.8	$110.8	$113.8	$117.1	$120.4	$123.9	$127.3	$131.1
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$93.8**	**$89.9**	**$94.3**	**$90.6**	**$92.7**	**$94.1**	**$93.6**	**$93.1**	**$93.3**	**$96.4**	**$100.4**	**$104.6**	**$109.7**	**$110.9**	**$112.4**	**$114.4**	**$117.1**	**$120.4**	**$123.9**	**$127.3**	**$131.1**
PG&E average gen rate for CCA load, $/MWh	**$101.5**	**$105.7**	**$106.6**	**$112.7**	**$115.5**	**$113.8**	**$113.3**	**$109.2**	**$113.2**	**$119.2**	**$126.3**	**$134.2**	**$144.0**	**$146.7**	**$151.0**	**$155.7**	**$160.8**	**$165.0**	**$170.5**	**$176.0**	**$182.5**
Reserve Fund Adjustment																					
Target	$12,386,616	$25,140,866	$38,675,826	$40,262,017	$41,598,455	$42,937,148	$43,399,558	$44,273,092	$46,489,842	$49,027,494	$51,935,578	$55,074,627	$58,588,575	$60,636,353	$62,532,535	$64,467,115	$66,595,046	$68,748,982	$70,974,528	$73,217,475	$75,690,015
Reserve Fund Adjustment																					
Potential Reserve potential	$9,037,817	$37,373,117	$44,318,310	$79,873,437	$82,994,739	$72,190,684	$72,076,358	$58,860,584	$73,135,250	$84,142,452	$96,221,651	$110,201,860	$128,194,145	$134,215,487	$145,270,805	$156,288,619	$165,801,447	$169,687,264	$178,229,235	$186,523,044	$197,789,460
Potential Reserve additions	$9,037,817	$16,103,049	$13,534,960	$1,586,191	$1,336,438	$1,338,693	$462,410	$873,533	$2,216,750	$2,537,652	$2,908,084	$3,139,049	$3,513,948	$2,047,778	$1,896,182	$1,934,580	$2,127,931	$2,153,936	$2,225,546	$2,242,947	$2,472,540
Subtractions from reserve fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reserve fund total	**$9,037,817**	**$25,140,866**	**$38,675,826**	**$40,262,017**	**$41,598,455**	**$42,937,148**	**$43,399,558**	**$44,273,092**	**$46,489,842**	**$49,027,494**	**$51,935,578**	**$55,074,627**	**$58,588,575**	**$60,636,353**	**$62,532,535**	**$64,467,115**	**$66,595,046**	**$68,748,982**	**$70,974,528**	**$73,217,475**	**$75,690,015**
Contra Costa CCA Customer Charges, $/MWh (with Reserve Fund Adjustment)																					
Rate adjustment from Reserve Fund	$7.7	$6.8	$3.8	$0.4	$0.4	$0.4	$0.1	$0.2	$0.6	$0.7	$0.8	$0.8	$0.9	$0.5	$0.5	$0.5	$0.6	$0.6	$0.6	$0.6	$0.6
Average Contra Costa CCA rate	$77.8	$77.6	$75.2	$74.5	$76.5	$78.7	$79.2	$80.7	$84.8	$89.2	$94.2	$99.5	$105.5	$108.4	$111.3	$114.3	$117.7	$121.0	$124.5	$127.9	$131.8
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$101.5**	**$96.7**	**$98.1**	**$91.1**	**$93.1**	**$94.4**	**$93.8**	**$93.4**	**$93.9**	**$97.1**	**$101.2**	**$105.5**	**$110.6**	**$111.5**	**$112.9**	**$114.9**	**$117.7**	**$121.0**	**$124.5**	**$127.9**	**$131.8**
Note: Reserve fund revenue is used to reduce CCA rates if (i) CCA rates are lower than PG&E rates or (ii) the reserve fund reaches the ceiling of half a year of expenses.																					
Contra Costa CCA CO2 emissions																					
Emissions (Tonnes/MWh)	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total emissions (Tonnes)	48,104	76,449	70,394	71,051	71,298	72,351	73,983	158,002	195,517	194,741	195,332	196,074	197,642	162,803	163,997	165,333	166,460	167,595	168,634	170,197	171,328

Scenario 2

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Expenses																					
Cost of Power (including losses)	$75,667,208	$155,562,573	$244,603,605	$253,936,224	$262,178,133	$270,821,465	$279,147,605	$288,420,808	$302,569,437	$318,621,199	$336,840,252	$356,586,893	$378,456,407	$388,844,347	$399,378,659	$410,314,502	$421,560,027	$432,993,327	$444,699,721	$456,541,793	$469,291,025
O&M/A&G Costs	$9,081,989	$11,047,477	$14,037,456	$14,312,982	$14,596,957	$14,871,929	$15,146,845	$15,425,482	$15,722,408	$16,025,074	$16,333,641	$16,648,197	$16,968,859	$17,295,746	$17,628,978	$17,968,678	$18,314,999	$18,668,042	$19,027,938	$19,394,819	$19,768,820
Energy Efficiency Programming Costs																					
Total Expenses	**$84,749,197**	**$166,610,049**	**$258,641,061**	**$268,249,207**	**$276,775,090**	**$285,693,394**	**$294,294,450**	**$303,846,289**	**$318,291,846**	**$334,646,273**	**$353,173,892**	**$373,235,090**	**$395,425,266**	**$406,140,093**	**$417,007,637**	**$428,283,180**	**$439,875,026**	**$451,661,369**	**$463,727,659**	**$475,936,612**	**$489,059,845**
Debt Service	**$0**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Revenue Requirement	**$84,749,197**	**$172,099,056**	**$264,130,067**	**$273,738,213**	**$282,264,096**	**$291,182,400**	**$294,294,450**	**$303,846,289**	**$318,291,846**	**$334,646,273**	**$353,173,892**	**$373,235,090**	**$395,425,266**	**$406,140,093**	**$417,007,637**	**$428,283,180**	**$439,875,026**	**$451,661,369**	**$463,727,659**	**$475,936,612**	**$489,059,845**
Total Load, MWh	**1,177,121**	**2,366,944**	**3,607,181**	**3,623,598**	**3,641,698**	**3,652,169**	**3,659,921**	**3,666,956**	**3,680,582**	**3,694,258**	**3,707,985**	**3,721,763**	**3,735,593**	**3,749,473**	**3,763,406**	**3,777,390**	**3,791,426**	**3,805,514**	**3,819,655**	**3,833,848**	**3,848,093**
Contra Costa CCA Customer Charges, $/MWh (before Reserve Fund Adjustment)																					
Average Contra Costa CCA generation	$72.0	$72.7	$73.2	$75.5	$77.5	$79.7	$80.4	$82.9	$86.5	$90.6	$95.2	$100.3	$105.9	$108.3	$110.8	$113.4	$116.0	$118.7	$121.4	$124.1	$127.1
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$95.7**	**$91.8**	**$96.1**	**$92.1**	**$94.1**	**$95.4**	**$95.0**	**$95.5**	**$95.6**	**$98.5**	**$102.2**	**$106.2**	**$111.0**	**$111.4**	**$112.5**	**$114.0**	**$116.0**	**$118.7**	**$121.4**	**$124.1**	**$127.1**
PG&E average gen rate for CCA load, $/MWh	**$101.5**	**$105.7**	**$106.6**	**$112.7**	**$115.5**	**$113.8**	**$113.3**	**$109.2**	**$113.2**	**$119.2**	**$126.3**	**$134.2**	**$144.0**	**$146.7**	**$151.0**	**$155.7**	**$160.8**	**$165.0**	**$170.5**	**$176.0**	**$182.5**
Reserve Fund Adjustment																					
Target	$12,712,380	$25,814,858	$39,619,510	$41,060,732	$42,339,614	$43,677,360	$44,144,167	$45,576,943	$47,743,777	$50,196,941	$52,976,084	$55,985,264	$59,313,790	$60,921,014	$62,551,146	$64,242,477	$65,981,254	$67,749,205	$69,559,149	$71,390,492	$73,358,977
Reserve Fund Adjustment																					
Potential Reserve potential	$6,866,063	$32,879,835	$38,027,080	$74,548,670	$78,053,677	$67,255,940	$67,112,296	$50,168,239	$64,775,682	$76,346,136	$89,284,946	$104,130,951	$123,359,382	$132,317,748	$145,146,736	$157,786,207	$169,893,397	$176,352,443	$187,665,096	$198,702,934	$213,329,715
Potential Reserve additions	$6,866,063	$18,948,796	$13,804,652	$1,441,222	$1,278,883	$1,337,746	$466,807	$1,432,776	$2,166,833	$2,453,164	$2,779,143	$3,009,180	$3,328,526	$1,607,224	$1,630,132	$1,691,331	$1,738,777	$1,767,951	$1,809,944	$1,831,343	$1,968,485
Subtractions from reserve fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reserve fund total	**$6,866,063**	**$25,814,858**	**$39,619,510**	**$41,060,732**	**$42,339,614**	**$43,677,360**	**$44,144,167**	**$45,576,943**	**$47,743,777**	**$50,196,941**	**$52,976,084**	**$55,985,264**	**$59,313,790**	**$60,921,014**	**$62,551,146**	**$64,242,477**	**$65,981,254**	**$67,749,205**	**$69,559,149**	**$71,390,492**	**$73,358,977**
Contra Costa CCA Customer Charges, $/MWh (with Reserve Fund Adjustment)																					
Rate adjustment from Reserve Fund	$5.8	$8.0	$3.8	$0.4	$0.4	$0.4	$0.1	$0.4	$0.6	$0.7	$0.7	$0.8	$0.9	$0.4	$0.4	$0.4	$0.5	$0.5	$0.5	$0.5	$0.5
Average Contra Costa CCA rate	$77.8	$80.7	$77.1	$75.9	$77.9	$80.1	$80.5	$83.3	$87.1	$91.2	$96.0	$101.1	$106.7	$108.7	$111.2	$113.8	$116.5	$119.2	$121.9	$124.6	$127.6
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$101.5**	**$99.8**	**$99.9**	**$92.5**	**$94.4**	**$95.8**	**$95.1**	**$95.9**	**$96.1**	**$99.2**	**$103.0**	**$107.1**	**$111.9**	**$111.9**	**$112.9**	**$114.4**	**$116.5**	**$119.2**	**$121.9**	**$124.6**	**$127.6**
Note: Reserve fund revenue is used to reduce CCA rates if (i) CCA rates are lower than PG&E rates or (ii) the reserve fund reaches the ceiling of half a year of expenses.																					
Contra Costa CCA CO2 emissions																					
Emissions (Tonnes/MWh)	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total emissions (Tonnes)	48,104	76,449	70,394	71,051	71,298	72,351	73,983	158,002	195,517	194,741	179,036	161,586	144,182	144,830	145,465	146,223	146,793	147,369	147,857	148,803	149,369

Scenario 3

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Expenses																					
Cost of Power (including losses)	$74,421,602	$155,059,529	$248,051,939	$262,405,554	$275,771,462	$289,759,015	$303,955,349	$316,069,786	$337,813,788	$362,649,650	$383,978,224	$406,604,081	$431,423,912	$446,808,176	$461,156,092	$475,748,288	$489,543,148	$503,482,983	$517,889,434	$532,382,737	$548,417,000
O&MA&G Costs	$9,081,989	$11,047,477	$14,037,456	$14,312,982	$14,596,957	$14,871,929	$15,146,845	$15,425,482	$15,722,408	$16,025,074	$16,333,641	$16,648,197	$16,968,859	$17,295,746	$17,628,978	$17,968,678	$18,314,999	$18,668,042	$19,027,938	$19,394,819	$19,768,820
Energy Efficiency Programming Costs																					
Total Expenses	**$83,503,591**	**$166,107,006**	**$262,089,395**	**$276,718,537**	**$290,368,419**	**$304,630,945**	**$319,102,194**	**$331,495,267**	**$353,536,197**	**$378,674,724**	**$400,311,865**	**$423,252,278**	**$448,392,771**	**$464,103,921**	**$478,785,070**	**$493,716,965**	**$507,858,147**	**$522,151,025**	**$536,917,372**	**$551,777,556**	**$568,185,821**
Debt Service	**$0**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Revenue Requirement	**$83,503,591**	**$171,596,012**	**$267,578,402**	**$282,207,543**	**$295,857,426**	**$310,119,951**	**$319,102,194**	**$331,495,267**	**$353,536,197**	**$378,674,724**	**$400,311,865**	**$423,252,278**	**$448,392,771**	**$464,103,921**	**$478,785,070**	**$493,716,965**	**$507,858,147**	**$522,151,025**	**$536,917,372**	**$551,777,556**	**$568,185,821**
Total Load, MWh	**1,177,121**	**2,366,944**	**3,607,181**	**3,623,598**	**3,641,698**	**3,652,169**	**3,659,921**	**3,666,956**	**3,680,582**	**3,694,258**	**3,707,985**	**3,721,763**	**3,735,593**	**3,749,473**	**3,763,406**	**3,777,390**	**3,791,426**	**3,805,514**	**3,819,655**	**3,833,848**	**3,848,093**
Alameda CCA Customer Charges, $/MWh (before Reserve Fund Adjustment)																					
Average Alameda CCA generation	$70.9	$72.5	$74.2	$77.9	$81.2	$84.9	$87.2	$90.4	$96.1	$102.5	$108.0	$113.7	$120.0	$123.8	$127.2	$130.7	$133.9	$137.2	$140.6	$143.9	$147.7
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$94.6**	**$91.6**	**$97.0**	**$94.4**	**$97.8**	**$100.6**	**$101.8**	**$103.0**	**$105.1**	**$110.5**	**$115.0**	**$119.7**	**$125.1**	**$126.9**	**$128.9**	**$131.3**	**$133.9**	**$137.2**	**$140.6**	**$143.9**	**$147.7**
PG&E average gen rate for CCA load, $/MWh	**$101.5**	**$105.7**	**$106.6**	**$112.7**	**$115.5**	**$113.8**	**$113.3**	**$109.2**	**$113.2**	**$119.2**	**$126.3**	**$134.2**	**$144.0**	**$146.7**	**$151.0**	**$155.7**	**$160.8**	**$165.0**	**$170.5**	**$176.0**	**$182.5**
Reserve Fund Adjustment																					
Target	$12,525,539	$25,739,402	$40,136,760	$42,331,131	$44,378,614	$46,517,993	$47,865,329	$49,724,290	$53,030,429	$56,801,209	$60,046,780	$63,487,842	$67,258,916	$69,615,588	$71,817,760	$74,057,545	$76,178,722	$78,322,654	$80,537,606	$82,766,633	$85,227,873
Reserve Fund Adjustment																					
Potential Reserve potential	$8,111,669	$33,382,879	$34,578,745	$66,079,340	$64,460,347	$48,318,389	$42,304,552	$22,519,261	$29,531,331	$32,317,684	$42,146,974	$54,113,763	$70,391,877	$74,353,919	$83,369,303	$92,352,422	$101,910,276	$105,862,787	$114,475,383	$122,861,990	$134,203,739
Potential Reserve additions	$8,111,669	$17,627,733	$14,397,358	$2,194,371	$2,047,482	$2,139,379	$1,347,336	$1,858,961	$3,306,139	$3,770,779	$3,245,571	$3,441,062	$3,771,074	$2,356,673	$2,202,172	$2,239,784	$2,121,177	$2,143,932	$2,214,952	$2,229,028	$2,461,240
Subtractions from reserve fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reserve fund total	**$8,111,669**	**$25,739,402**	**$40,136,760**	**$42,331,131**	**$44,378,614**	**$46,517,993**	**$47,865,329**	**$49,724,290**	**$53,030,429**	**$56,801,209**	**$60,046,780**	**$63,487,842**	**$67,258,916**	**$69,615,588**	**$71,817,760**	**$74,057,545**	**$76,178,722**	**$78,322,654**	**$80,537,606**	**$82,766,633**	**$85,227,873**
Alameda CCA Customer Charges, $/MWh (with Reserve Fund Adjustment)																					
Rate adjustment from Reserve Fund	$6.9	$7.4	$4.0	$0.6	$0.6	$0.6	$0.4	$0.5	$0.9	$1.0	$0.9	$0.9	$1.0	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6
Average Alameda CCA rate	$77.8	$79.9	$78.2	$78.5	$81.8	$85.5	$87.6	$90.9	$97.0	$103.5	$108.8	$114.6	$121.0	$124.4	$127.8	$131.3	$134.5	$137.8	$141.1	$144.5	$148.3
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$101.5**	**$99.0**	**$101.0**	**$95.0**	**$98.4**	**$101.2**	**$102.1**	**$103.5**	**$106.0**	**$111.5**	**$115.8**	**$120.6**	**$126.2**	**$127.5**	**$129.5**	**$131.9**	**$134.5**	**$137.8**	**$141.1**	**$144.5**	**$148.3**
Note: Reserve fund revenue is used to reduce CCA rates if (i) CCA rates are lower than PG&E rates or (ii) the reserve fund reaches the ceiling of half a year of expenses.																					
Alameda CCA CO2 emissions																					
Emissions (Tonnes/MWh)	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total emissions (Tonnes)	48,104	76,449	70,394	71,051	71,298	72,351	73,983	158,002	195,517	194,741	195,332	196,074	197,642	162,803	163,997	165,333	166,460	167,595	168,634	170,197	171,328

Scenario 4

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Expenses																					
Cost of Power (including losses)	$77,332,918	$162,719,907	$262,070,819	$279,609,557	$297,052,506	$315,993,039	$336,528,138	$362,105,625	$391,911,928	$427,041,105	$449,571,955	$473,571,311	$500,641,660	$511,836,324	$523,149,117	$534,898,122	$546,971,922	$559,212,625	$571,745,163	$584,386,818	$598,049,458
O&M/A&G Costs	$9,081,989	$11,047,477	$14,037,456	$14,312,982	$14,596,957	$14,871,929	$15,146,845	$15,425,482	$15,722,408	$16,025,074	$16,333,641	$16,648,197	$16,968,859	$17,295,746	$17,628,978	$17,968,678	$18,314,999	$18,668,042	$19,027,938	$19,394,819	$19,768,820
Energy Efficiency Programming Costs																					
Total Expenses	**$86,414,907**	**$173,767,384**	**$276,108,275**	**$293,922,540**	**$311,649,463**	**$330,864,968**	**$351,674,983**	**$377,531,107**	**$407,634,337**	**$443,066,180**	**$465,905,596**	**$490,219,508**	**$517,610,519**	**$529,132,070**	**$540,778,094**	**$552,866,799**	**$565,286,921**	**$577,880,667**	**$590,773,101**	**$603,781,637**	**$617,818,279**
Debt Service	**$0**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$5,489,006**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Revenue Requirement	**$86,414,907**	**$179,256,390**	**$281,597,282**	**$299,411,546**	**$317,138,469**	**$336,353,975**	**$351,674,983**	**$377,531,107**	**$407,634,337**	**$443,066,180**	**$465,905,596**	**$490,219,508**	**$517,610,519**	**$529,132,070**	**$540,778,094**	**$552,866,799**	**$565,286,921**	**$577,880,667**	**$590,773,101**	**$603,781,637**	**$617,818,279**
Total Load, MWh	**1,177,121**	**2,366,944**	**3,607,181**	**3,623,598**	**3,641,698**	**3,652,169**	**3,659,921**	**3,666,956**	**3,680,582**	**3,694,258**	**3,707,985**	**3,721,763**	**3,735,593**	**3,749,473**	**3,763,406**	**3,777,390**	**3,791,426**	**3,805,514**	**3,819,655**	**3,833,848**	**3,848,093**
Alameda CCA Customer Charges, $/MWh (before Reserve Fund Adjustment)																					
Average Alameda CCA generation	$73.4	$75.7	$78.1	$82.6	$87.1	$92.1	$96.1	$103.0	$110.8	$119.9	$125.6	$131.7	$138.6	$141.1	$143.7	$146.4	$149.1	$151.9	$154.7	$157.5	$160.6
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$97.1**	**$94.8**	**$100.9**	**$99.2**	**$103.7**	**$107.8**	**$110.7**	**$115.6**	**$119.8**	**$127.9**	**$132.7**	**$137.7**	**$143.7**	**$144.2**	**$145.4**	**$147.0**	**$149.1**	**$151.9**	**$154.7**	**$157.5**	**$160.6**
PG&E average gen rate for CCA load, $/MWh	**$101.5**	**$105.7**	**$106.6**	**$112.7**	**$115.5**	**$113.8**	**$113.3**	**$109.2**	**$113.2**	**$119.2**	**$126.3**	**$134.2**	**$144.0**	**$146.7**	**$151.0**	**$155.7**	**$160.8**	**$165.0**	**$170.5**	**$176.0**	**$182.5**
Reserve Fund Adjustment																					
Target	$12,962,236	$26,888,459	$42,239,592	$44,911,732	$47,570,770	$50,453,096	$52,751,248	$56,629,666	$61,145,150	$66,459,927	$69,885,839	$73,532,926	$77,641,578	$79,369,810	$81,116,714	$82,930,020	$84,793,038	$86,682,100	$88,615,965	$90,567,246	$92,672,742
Reserve Fund Adjustment																					
Potential Reserve potential	$5,200,352	$25,722,501	$20,559,865	$48,875,337	$43,179,304	$22,084,365	$9,731,762	$0	$0	$0	$0	$0	$1,174,129	$9,325,771	$21,376,279	$33,202,588	$44,481,502	$50,133,145	$60,619,654	$70,857,909	$84,571,282
Potential Reserve additions	$5,200,352	$21,688,106	$15,351,134	$2,672,140	$2,659,039	$2,882,326	$2,298,151	$0	$0	$0	$0	$0	$77,641,578	$1,728,233	$1,746,904	$1,813,306	$1,863,018	$1,889,062	$1,933,865	$1,951,280	$2,105,496
Subtractions from reserve fund	$0	$0	$0	$0	$0	$0	$0	$23,516,579	$24,566,809	$4,667,860	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reserve fund total	**$5,200,352**	**$26,888,459**	**$42,239,592**	**$44,911,732**	**$47,570,770**	**$50,453,096**	**$52,751,248**	**$29,234,669**	**$4,667,860**	**$0**	**$0**	**$0**	**$77,641,578**	**$79,369,810**	**$81,116,714**	**$82,930,020**	**$84,793,038**	**$86,682,100**	**$88,615,965**	**$90,567,246**	**$92,672,742**
Alameda CCA Customer Charges, $/MWh (with Reserve Fund Adjustment)																					
Rate adjustment from Reserve Fund	$4.4	$9.2	$4.3	$0.7	$0.7	$0.8	$0.6	-$6.4	-$6.7	-$1.3	$0.0	$0.0	$20.8	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5
Average Alameda CCA rate	$77.8	$84.9	$82.3	$83.4	$87.8	$92.9	$96.7	$96.5	$104.1	$118.7	$125.6	$131.7	$159.3	$141.6	$144.2	$146.8	$149.6	$152.3	$155.2	$158.0	$161.1
PG&E average exit fees for CCA load	$23.7	$19.1	$22.9	$16.6	$16.6	$15.7	$14.6	$12.6	$9.1	$8.0	$7.0	$6.0	$5.1	$3.1	$1.7	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Total CCA customer rate	**$101.5**	**$104.0**	**$105.2**	**$99.9**	**$104.4**	**$108.6**	**$111.3**	**$109.2**	**$113.2**	**$126.6**	**$132.7**	**$137.7**	**$164.5**	**$144.7**	**$145.8**	**$147.4**	**$149.6**	**$152.3**	**$155.2**	**$158.0**	**$161.1**
Note: Reserve fund revenue is used to reduce CCA rates if (i) CCA rates are lower than PG&E rates or (ii) the reserve fund reaches the ceiling of half a year of expenses.																					
Alameda CCA CO2 emissions																					
Emissions (Tonnes/MWh)	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total emissions (Tonnes)	48,104	76,449	70,394	71,051	71,298	72,351	73,983	158,002	195,517	194,741	179,036	161,586	144,182	144,830	145,465	146,223	146,793	147,369	147,857	148,803	149,369

Appendix H. MCE's Joint Powers Agreements

Marin Energy Authority
- Joint Powers Agreement -

Effective December 19, 2008
As amended by Amendment No. 1 dated December 3, 2009
As further amended by Amendment No. 2 dated March 4, 2010
As further amended by Amendment No. 3 dated May 6, 2010
As further amended by Amendment No. 4 dated December 1, 2011
As further amended by Amendment No. 5 dated July 5, 2012
As further amended by Amendment No. 6 dated September 5, 2013
As further amended by Amendment No. 7 dated December 5, 2013
As further amended by Amendment No. 8 dated September 4, 2014
As further amended by Amendment No. 9 dated December 4, 2014
As further amended by Amendment No. 10 dated April 21, 2016

Among The Following Parties:
City of American Canyon
City of Belvedere
City of Benicia
City of Calistoga
Town of Corte Madera
City of El Cerrito
Town of Fairfax
City of Lafayette
City of Larkspur
City of Mill Valley
City of Napa
City of Novato
City of Richmond
Town of Ross
Town of San Anselmo
City of San Pablo
City of San Rafael
City of Sausalito
City of St. Helena
Town of Tiburon
City of Walnut Creek
Town of Yountville
County of Marin
County of Napa

MARIN ENERGY AUTHORITY
JOINT POWERS AGREEMENT

This **Joint Powers Agreement** ("Agreement"), effective as of December 19, 2008, is made and entered into pursuant to the provisions of Title 1, Division 7, Chapter 5, Article 1 (Section 6500 et seq.) of the California Government Code relating to the joint exercise of powers among the parties set forth in Exhibit B ("Parties"). The term "Parties" shall also include an incorporated municipality or county added to this Agreement in accordance with Section 3.1.

RECITALS

1. The Parties are either incorporated municipalities or counties sharing various powers under California law, including but not limited to the power to purchase, supply, and aggregate electricity for themselves and their inhabitants.

2. In 2006, the State Legislature adopted AB 32, the Global Warming Solutions Act, which mandates a reduction in greenhouse gas emissions in 2020 to 1990 levels. The California Air Resources Board is promulgating regulations to implement AB 32 which will require local government to develop programs to reduce greenhouse emissions.

3. The purposes for the Initial Participants (as such term is defined in Section 2.2 below) entering into this Agreement include addressing climate change by reducing energy related greenhouse gas emissions and securing energy supply and price stability, energy efficiencies and local economic benefits. It is the intent of this Agreement to promote the development and use of a wide range of renewable energy sources and energy efficiency programs, including but not limited to solar and wind energy production.

4. The Parties desire to establish a separate public agency, known as the Marin Energy Authority ("Authority"), under the provisions of the Joint Exercise of Powers Act of the State of California (Government Code Section 6500 et seq.) ("Act") in order to collectively study, promote, develop, conduct, operate, and manage energy programs.

5. The Initial Participants have each adopted an ordinance electing to implement through the Authority Community Choice Aggregation, an electric service enterprise agency available to cities and counties pursuant to California Public Utilities Code Section 366.2 ("CCA Program"). The first priority of the Authority will be the consideration of those actions necessary to implement the CCA Program. Regardless of whether or not Program Agreement 1 is approved and the CCA Program becomes operational, the parties intend for the Authority to continue to study, promote, develop, conduct, operate and manage other energy programs.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises, covenants, and conditions hereinafter set forth, it is agreed by and among the Parties as follows:

ARTICLE 1
CONTRACT DOCUMENTS

1.1 **Definitions**. Capitalized terms used in the Agreement shall have the meanings specified in Exhibit A, unless the context requires otherwise.

1.2 **Documents Included**. This Agreement consists of this document and the following exhibits, all of which are hereby incorporated into this Agreement.

Exhibit A:	Definitions
Exhibit B:	List of the Parties
Exhibit C:	Annual Energy Use
Exhibit D:	Voting Shares

1.3 **Revision of Exhibits**. The Parties agree that Exhibits B, C and D to this Agreement describe certain administrative matters that may be revised upon the approval of the Board, without such revision constituting an amendment to this Agreement, as described in Section 8.4. The Authority shall provide written notice to the Parties of the revision of any such exhibit.

ARTICLE 2
FORMATION OF MARIN ENERGY AUTHORITY

2.1 **Effective Date and Term**. This Agreement shall become effective and Marin Energy Authority shall exist as a separate public agency on the date this Agreement is executed by at least two Initial Participants after the adoption of the ordinances required by Public Utilities Code Section 366.2(c)(10). The Authority shall provide notice to the Parties of the Effective Date. The Authority shall continue to exist, and this Agreement shall be effective, until this Agreement is terminated in accordance with Section 7.4, subject to the rights of the Parties to withdraw from the Authority.

2.2 **Initial Participants**. During the first 180 days after the Effective Date, all other Initial Participants may become a Party by executing this Agreement and delivering an executed copy of this Agreement and a copy of the adopted ordinance required by Public Utilities Code Section 366.2(c)(10) to the Authority. Additional conditions, described in Section 3.1, may apply (i) to either an incorporated municipality or county desiring to become a Party and is not an Initial Participant and (ii) to Initial Participants that have not executed and delivered this Agreement within the time period described above.

2.3 **<u>Formation</u>**. There is formed as of the Effective Date a public agency named the Marin Energy Authority. Pursuant to Sections 6506 and 6507 of the Act, the Authority is a public agency separate from the Parties. The debts, liabilities or obligations of the Authority shall not be debts, liabilities or obligations of the individual Parties unless the governing board of a Party agrees in writing to assume any of the debts, liabilities or obligations of the Authority. A Party who has not agreed to assume an Authority debt, liability or obligation shall not be responsible in any way for such debt, liability or obligation even if a majority of the Parties agree to assume the debt, liability or obligation of the Authority. Notwithstanding Section 8.4 of this Agreement, this Section 2.3 may not be amended unless such amendment is approved by the governing board of each Party.

2.4 **<u>Purpose</u>**. The purpose of this Agreement is to establish an independent public agency in order to exercise powers common to each Party to study, promote, develop, conduct, operate, and manage energy and energy-related climate change programs, and to exercise all other powers necessary and incidental to accomplishing this purpose. Without limiting the generality of the foregoing, the Parties intend for this Agreement to be used as a contractual mechanism by which the Parties are authorized to participate as a group in the CCA Program, as further described in Section 5.1. The Parties intend that subsequent agreements shall define the terms and conditions associated with the actual implementation of the CCA Program and any other energy programs approved by the Authority.

2.5 **<u>Powers</u>**. The Authority shall have all powers common to the Parties and such additional powers accorded to it by law. The Authority is authorized, in its own name, to exercise all powers and do all acts necessary and proper to carry out the provisions of this Agreement and fulfill its purposes, including, but not limited to, each of the following:

2.5.1 make and enter into contracts;
2.5.2 employ agents and employees, including but not limited to an Executive Director;
2.5.3 acquire, contract, manage, maintain, and operate any buildings, works or improvements;
2.5.4 acquire by eminent domain, or otherwise, except as limited under Section 6508 of the Act, and to hold or dispose of any property;
2.5.5 lease any property;
2.5.6 sue and be sued in its own name;
2.5.7 incur debts, liabilities, and obligations, including but not limited to loans from private lending sources pursuant to its temporary borrowing powers such as Government Code Section 53850 et seq. and authority under the Act;
2.5.8 issue revenue bonds and other forms of indebtedness;
2.5.9 apply for, accept, and receive all licenses, permits, grants, loans or other aids from any federal, state or local public agency;

2.5.10 submit documentation and notices, register, and comply with orders, tariffs and agreements for the establishment and implementation of the CCA Program and other energy programs;

2.5.11 adopt rules, regulations, policies, bylaws and procedures governing the operation of the Authority ("Operating Rules and Regulations"); and

2.5.12 make and enter into service agreements relating to the provision of services necessary to plan, implement, operate and administer the CCA Program and other energy programs, including the acquisition of electric power supply and the provision of retail and regulatory support services.

2.6 **Limitation on Powers**. As required by Government Code Section 6509, the power of the Authority is subject to the restrictions upon the manner of exercising power possessed by the County of Marin.

2.7 **Compliance with Local Zoning and Building Laws**. Notwithstanding any other provisions of this Agreement or state law, any facilities, buildings or structures located, constructed or caused to be constructed by the Authority within the territory of the Authority shall comply with the General Plan, zoning and building laws of the local jurisdiction within which the facilities, buildings or structures are constructed.

ARTICLE 3
AUTHORITY PARTICIPATION

3.1 **Addition of Parties**. Subject to Section 2.2, relating to certain rights of Initial Participants, other incorporated municipalities and counties may become Parties upon (a) the adoption of a resolution by the governing body of such incorporated municipality or such county requesting that the incorporated municipality or county, as the case may be, become a member of the Authority, (b) the adoption, by an affirmative vote of the Board satisfying the requirements described in Section 4.9.1, of a resolution authorizing membership of the additional incorporated municipality or county, specifying the membership payment, if any, to be made by the additional incorporated municipality or county to reflect its pro rata share of organizational, planning and other pre-existing expenditures, and describing additional conditions, if any, associated with membership, (c) the adoption of an ordinance required by Public Utilities Code Section 366.2(c)(10) and execution of this Agreement and other necessary program agreements by the incorporated municipality or county, (d) payment of the membership payment, if any, and (e) satisfaction of any conditions established by the Board. Notwithstanding the foregoing, in the event the Authority decides to not implement a CCA Program, the requirement that an additional party adopt the ordinance required by Public Utilities Code Section 366.2(c)(10) shall not apply. Under such circumstance, the Board resolution authorizing membership of an additional incorporated municipality or county shall be adopted in accordance with the voting requirements of Section 4.10.

3.2 **Continuing Participation**. The Parties acknowledge that membership in the Authority may change by the addition and/or withdrawal or termination of Parties. The Parties agree to participate with such other Parties as may later be added, as described in Section 3.1. The Parties also agree that the withdrawal or termination of a Party shall not affect this Agreement or the remaining Parties' continuing obligations under this Agreement.

ARTICLE 4
GOVERNANCE AND INTERNAL ORGANIZATION

4.1 **Board of Directors**. The governing body of the Authority shall be a Board of Directors ("Board") consisting of one director for each Party appointed in accordance with Section 4.2.

4.2 **Appointment and Removal of Directors**. The Directors shall be appointed and may be removed as follows:

4.2.1 The governing body of each Party shall appoint and designate in writing one regular Director who shall be authorized to act for and on behalf of the Party on matters within the powers of the Authority. The governing body of each Party also shall appoint and designate in writing one alternate Director who may vote on matters when the regular Director is absent from a Board meeting. The person appointed and designated as the Director or the alternate Director shall be a member of the governing body of the Party.

4.2.2 The Operating Rules and Regulations, to be developed and approved by the Board in accordance with Section 2.5.11, shall specify the reasons for and process associated with the removal of an individual Director for cause. Notwithstanding the foregoing, no Party shall be deprived of its right to seat a Director on the Board and any such Party for which its Director and/or alternate Director has been removed may appoint a replacement.

4.3 **Terms of Office**. Each Director shall serve at the pleasure of the governing body of the Party that the Director represents, and may be removed as Director by such governing body at any time. If at any time a vacancy occurs on the Board, a replacement shall be appointed to fill the position of the previous Director in accordance with the provisions of Section 4.2 within 90 days of the date that such position becomes vacant.

4.4 **Quorum**. A majority of the Directors shall constitute a quorum, except that less than a quorum may adjourn from time to time in accordance with law.

4.5 **Powers and Function of the Board**. The Board shall conduct or authorize to be conducted all business and activities of the Authority, consistent with this Agreement, the Authority Documents, the Operating Rules and Regulations, and applicable law.

4.6 **Executive Committee**. The Board may establish an executive committee consisting of a smaller number of Directors. The Board may delegate to the executive committee such authority as the Board might otherwise exercise, subject to limitations placed on the Board's authority to delegate certain essential functions, as described in the Operating Rules and Regulations. The Board may not delegate to the Executive Committee or any other committee its authority under Section 2.5.11 to adopt and amend the Operating Rules and Regulations.

4.7 **Commissions, Boards and Committees**. The Board may establish any advisory commissions, boards and committees as the Board deems appropriate to assist the Board in carrying out its functions and implementing the CCA Program, other energy programs and the provisions of this Agreement.

4.8 **Director Compensation**. Compensation for work performed by Directors on behalf of the Authority shall be borne by the Party that appointed the Director. The Board, however, may adopt by resolution a policy relating to the reimbursement of expenses incurred by Directors.

4.9 **Board Voting Related to the CCA Program**.

4.9.1. To be effective, on all matters specifically related to the CCA Program, a vote of the Board shall consist of the following: (1) a majority of all Directors shall vote in the affirmative or such higher voting percentage expressly set forth in Sections 7.2 and 8.4 (the "percentage vote") and (2) the corresponding voting shares (as described in Section 4.9.2 and Exhibit D) of all such Directors voting in the affirmative shall exceed 50%, or such other higher voting shares percentage expressly set forth in Sections 7.2 and 8.4 (the "percentage voting shares"), provided that, in instances in which such other higher voting share percentage would result in any one Director having a voting share that equals or exceeds that which is necessary to disapprove the matter being voted on by the Board, at least one other Director shall be required to vote in the negative in order to disapprove such matter.

4.9.2. Unless otherwise stated herein, voting shares of the Directors shall be determined by combining the following: (1) an equal voting share for each Director determined in accordance with the formula detailed in Section 4.9.2.1, below; and (2) an additional voting share determined in accordance with the formula detailed in Section 4.9.2.2, below.

4.9.2.1 Pro Rata Voting Share. Each Director shall have an equal voting share as determined by the following formula: (1/total number of

Directors) multiplied by 50, and

4.9.2.2 Annual Energy Use Voting Share. Each Director shall have an additional voting share as determined by the following formula: (Annual Energy Use/Total Annual Energy) multiplied by 50, where (a) "Annual Energy Use" means, (i) with respect to the first 5 years following the Effective Date, the annual electricity usage, expressed in kilowatt hours ("kWhs"), within the Party's respective jurisdiction and (ii) with respect to the period after the fifth anniversary of the Effective Date, the annual electricity usage, expressed in kWhs, of accounts within a Party's respective jurisdiction that are served by the Authority and (b) "Total Annual Energy" means the sum of all Parties' Annual Energy Use. The initial values for Annual Energy use are designated in Exhibit C, and shall be adjusted annually as soon as reasonably practicable after January 1, but no later than March 1 of each year

4.9.2.3 The voting shares are set forth in Exhibit D. Exhibit D may be updated to reflect revised annual energy use amounts and any changes in the parties to the Agreement without amending the Agreement provided that the Board is provided a copy of the updated Exhibit D.

4.10 **Board Voting on General Administrative Matters and Programs Not Involving CCA.** Except as otherwise provided by this Agreement or the Operating Rules and Regulations, each member shall have one vote on general administrative matters, including but not limited to the adoption and amendment of the Operating Rules and Regulations, and energy programs not involving CCA. Action on these items shall be determined by a majority vote of the quorum present and voting on the item or such higher voting percentage expressly set forth in Sections 7.2 and 8.4.

4.11 **Board Voting on CCA Programs Not Involving CCA That Require Financial Contributions.** The approval of any program or other activity not involving CCA that requires financial contributions by individual Parties shall be approved only by a majority vote of the full membership of the Board subject to the right of any Party who votes against the program or activity to opt-out of such program or activity pursuant to this section. The Board shall provide at least 45 days prior written notice to each Party before it considers the program or activity for adoption at a Board meeting. Such notice shall be provided to the governing body and the chief administrative officer, city manager or town manager of each Party. The Board also shall provide written notice of such program or activity adoption to the above-described officials of each Party within 5 days after the Board adopts the program or activity. Any Party voting against the approval of a program or other activity of the Authority requiring financial contributions by individual Parties may elect to opt-out of participation in such program or activity by providing written notice of this election to the Board within 30 days after the program or activity is approved by the Board. Upon timely exercising its opt-out election, a Party shall not have any financial obligation or any liability whatsoever for the conduct or operation of such program or activity.

4.12 **Meetings and Special Meetings of the Board**. The Board shall hold at least four regular meetings per year, but the Board may provide for the holding of regular meetings at more frequent intervals. The date, hour and place of each regular meeting shall be fixed by resolution or ordinance of the Board. Regular meetings may be adjourned to another meeting time. Special meetings of the Board may be called in accordance with the provisions of California Government Code Section 54956. Directors may participate in meetings telephonically, with full voting rights, only to the extent permitted by law. All meetings of the Board shall be conducted in accordance with the provisions of the Ralph M. Brown Act (California Government Code Section 54950 et seq.).

4.13 **Selection of Board Officers.**

4.13.1 **Chair and Vice Chair**. The Directors shall select, from among themselves, a Chair, who shall be the presiding officer of all Board meetings, and a Vice Chair, who shall serve in the absence of the Chair. The term of office of the Chair and Vice Chair shall continue for one year, but there shall be no limit on the number of terms held by either the Chair or Vice Chair. The office of either the Chair or Vice Chair shall be declared vacant and a new selection shall be made if: (a) the person serving dies, resigns, or the Party that the person represents removes the person as its representative on the Board or (b) the Party that he or she represents withdraws form the Authority pursuant to the provisions of this Agreement.

4.13.2 **Secretary**. The Board shall appoint a Secretary, who need not be a member of the Board, who shall be responsible for keeping the minutes of all meetings of the Board and all other official records of the Authority.

4.13.3 **Treasurer and Auditor**. The Board shall appoint a qualified person to act as the Treasurer and a qualified person to act as the Auditor, neither of whom needs to be a member of the Board. If the Board so designates, and in accordance with the provisions of applicable law, a qualified person may hold both the office of Treasurer and the office of Auditor of the Authority. Unless otherwise exempted from such requirement, the Authority shall cause an independent audit to be made by a certified public accountant, or public accountant, in compliance with Section 6505 of the Act. The Treasurer shall act as the depositary of the Authority and have custody of all the money of the Authority, from whatever source, and as such, shall have all of the duties and responsibilities specified in Section 6505.5 of the Act. The Board may require the Treasurer and/or Auditor to file with the Authority an official bond in an amount to be fixed by the Board, and if so requested the Authority shall pay the cost of premiums associated with the bond. The Treasurer shall report directly to the Board and shall comply with the requirements of treasurers of incorporated municipalities. The Board may transfer the responsibilities of Treasurer to any person or entity as the law may provide at the time. The duties and obligations of the Treasurer are further specified in Article 6.

4.14 **Administrative Services Provider.** The Board may appoint one or more administrative services providers to serve as the Authority's agent for planning, implementing, operating and administering the CCA Program, and any other program approved by the Board, in accordance with the provisions of a written agreement between the Authority and the appointed administrative services provider or providers that will be known as an Administrative Services Agreement. The Administrative Services Agreement shall set forth the terms and conditions by which the appointed administrative services provider shall perform or cause to be performed all tasks necessary for planning, implementing, operating and administering the CCA Program and other approved programs. The Administrative Services Agreement shall set forth the term of the Agreement and the circumstances under which the Administrative Services Agreement may be terminated by the Authority. This section shall not in any way be construed to limit the discretion of the Authority to hire its own employees to administer the CCA Program or any other program.

ARTICLE 5
IMPLEMENTATION ACTION AND AUTHORITY DOCUMENTS

5.1 **Preliminary Implementation of the CCA Program.**

5.1.1 **Enabling Ordinance**. Except as otherwise provided by Section 3.1, prior to the execution of this Agreement, each Party shall adopt an ordinance in accordance with Public Utilities Code Section 366.2(c)(10) for the purpose of specifying that the Party intends to implement a CCA Program by and through its participation in the Authority.

5.1.2 **Implementation Plan**. The Authority shall cause to be prepared an Implementation Plan meeting the requirements of Public Utilities Code Section 366.2 and any applicable Public Utilities Commission regulations as soon after the Effective Date as reasonably practicable. The Implementation Plan shall not be filed with the Public Utilities Commission until it is approved by the Board in the manner provided by Section 4.9.

5.1.3 Effect of Vote On Required Implementation Action. In the event that two or more Parties vote to approve Program Agreement 1 or any earlier action required for the implementation of the CCA Program ("Required Implementation Action"), but such vote is insufficient to approve the Required Implementation Action under Section 4.9, the following will occur:

5.1.3.1 The Parties voting against the Required Implementation Action shall no longer be a Party to this Agreement and this Agreement shall be terminated, without further notice, with respect to each of the Parties voting against the Required Implementation Action at the time this vote is final. The Board may take a provisional vote on a Required Implementation Action in order to initially determine the position of the Parties on the Required Implementation Action. A vote, specifically stated in the record of the Board meeting to be a provisional vote, shall not be considered a final vote with the consequences stated above. A Party who is terminated from this Agreement pursuant to this section shall be considered the same as a Party that voluntarily withdrew from the Agreement under Section 7.1.1.1.

5.1.3.2 After the termination of any Parties pursuant to Section 5.1.3.1, the remaining Parties to this Agreement shall be only the Parties who voted in favor of the Required Implementation Action.

5.1.4 Termination of CCA Program. Nothing contained in this Article or this Agreement shall be construed to limit the discretion of the Authority to terminate the implementation or operation of the CCA Program at any time in accordance with any applicable requirements of state law.

5.2 Authority Documents. The Parties acknowledge and agree that the affairs of the Authority will be implemented through various documents duly adopted by the Board through Board resolution, including but not necessarily limited to the Operating Rules and Regulations, the annual budget, and specified plans and policies defined as the Authority Documents by this Agreement. The Parties agree to abide by and comply with the terms and conditions of all such Authority Documents that may be adopted by the Board, subject to the Parties' right to withdraw from the Authority as described in Article 7.

ARTICLE 6
FINANCIAL PROVISIONS

6.1 **Fiscal Year**. The Authority's fiscal year shall be 12 months commencing July 1 and ending June 30. The fiscal year may be changed by Board resolution.

6.2 **Depository**.

6.2.1 All funds of the Authority shall be held in separate accounts in the name of the Authority and not commingled with funds of any Party or any other person or entity.

6.2.2 All funds of the Authority shall be strictly and separately accounted for, and regular reports shall be rendered of all receipts and disbursements, at least quarterly during the fiscal year. The books and records of the Authority shall be open to inspection by the Parties at all reasonable times. The Board shall contract with a certified public accountant or public accountant to make an annual audit of the accounts and records of the Authority, which shall be conducted in accordance with the requirements of Section 6505 of the Act.

6.2.3 All expenditures shall be made in accordance with the approved budget and upon the approval of any officer so authorized by the Board in accordance with its Operating Rules and Regulations. The Treasurer shall draw checks or warrants or make payments by other means for claims or disbursements not within an applicable budget only upon the prior approval of the Board.

6.3 **Budget and Recovery Costs**.

6.3.1 **Budget**. The initial budget shall be approved by the Board. The Board may revise the budget from time to time through an Authority Document as may be reasonably necessary to address contingencies and unexpected expenses. All subsequent budgets of the Authority shall be prepared and approved by the Board in accordance with the Operating Rules and Regulations.

6.3.2 **County Funding of Initial Costs**. The County of Marin shall fund the Initial Costs of the Authority in implementing the CCA Program in an amount not to exceed $500,000 unless a larger amount of funding is approved by the Board of Supervisors of the County**.** This funding shall be paid by the County at the times and in the amounts required by the Authority. In the event that the CCA Program becomes operational, these Initial Costs paid by the County of Marin shall be included in the customer charges for electric services as provided by Section 6.3.4 to the extent permitted by law, and the County of Marin shall be reimbursed from the payment of such charges by customers of the Authority. The Authority may establish a reasonable time period over which such costs are recovered. In the event that the CCA Program does not become operational, the County of Marin shall not be entitled to any reimbursement of the Initial Costs it has paid from the Authority or any Party.

6.3.3 **CCA Program Costs**. The Parties desire that, to the extent reasonably practicable, all costs incurred by the Authority that are directly or indirectly attributable to the provision of electric services under the CCA Program, including the establishment and maintenance of various reserve and performance funds, shall be recovered through charges to CCA customers receiving such electric services.

6.3.4 **General Costs**. Costs that are not directly or indirectly attributable to the provision of electric services under the CCA Program, as determined by the Board, shall be defined as general costs. General costs shall be shared among the Parties on such basis as the Board shall determine pursuant to an Authority Document.

6.3.5 **Other Energy Program Costs**. Costs that are directly or indirectly attributable to energy programs approved by the Authority other than the CCA Program shall be shared among the Parties on such basis as the Board shall determine pursuant to an Authority Document.

ARTICLE 7
WITHDRAWAL AND TERMINATION

7.1 **<u>Withdrawal</u>**.

7.1.1 **General.**

7.1.1.1 Prior to the Authority's execution of Program Agreement 1, any Party may withdraw its membership in the Authority by giving no less than 30 days advance written notice of its election to do so, which notice shall be given to the Authority and each Party. To permit consideration by the governing body of each Party, the Authority shall provide a copy of the proposed Program Agreement 1 to each Party at least 90 days prior to the consideration of such agreement by the Board.

7.1.1.2 Subsequent to the Authority's execution of Program Agreement 1, a Party may withdraw its membership in the Authority, effective as of the beginning of the Authority's fiscal year, by giving no less than 6 months advance written notice of its election to do so, which notice shall be given to the Authority and each Party, and upon such other conditions as may be prescribed in Program Agreement 1.

7.1.2 **Amendment**. Notwithstanding Section 7.1.1, a Party may withdraw its membership in the Authority following an amendment to this Agreement in the manner provided by Section 8.4.

7.1.3 **Continuing Liability; Further Assurances**. A Party that withdraws its membership in the Authority may be subject to certain continuing liabilities, as described in Section 7.3. The withdrawing Party and the Authority shall execute and deliver all further instruments and documents, and take any further action that may be reasonably necessary, as determined by the Board, to effectuate the orderly withdrawal of such Party from membership in the Authority. The Operating Rules and Regulations shall prescribe the rights if any of a withdrawn Party to continue to participate in those Board discussions and decisions affecting customers of the CCA Program that reside or do business within the jurisdiction of the Party.

7.2 **<u>Involuntary Termination of a Party</u>**. This Agreement may be terminated with respect to a Party for material non-compliance with provisions of this Agreement or the Authority Documents upon an affirmative vote of the Board in which the minimum percentage vote and percentage voting shares, as described in Section 4.9.1, shall be no less than 67%, excluding the vote and voting shares of the Party subject to possible termination. Prior to any vote to terminate this Agreement with respect to a Party, written notice of the proposed termination and the reason(s) for such termination shall be delivered to the Party whose termination is proposed at least 30 days prior to the regular Board meeting at which such matter shall first be discussed as an agenda item. The written notice of proposed termination shall specify the particular provisions of this Agreement or the Authority Documents that the Party has allegedly violated. The Party subject to possible termination shall have the opportunity at the next regular Board meeting to respond to any reasons and allegations that may be cited as a basis for termination prior to a vote regarding termination. A Party that has had its membership in the Authority terminated may be subject to certain continuing liabilities, as described in Section 7.3. In the event that the Authority decides to not implement the CCA Program, the minimum percentage vote of 67% shall be conducted in accordance with Section 4.10 rather than Section 4.9.1.

7.3 **<u>Continuing Liability; Refund</u>**. Upon a withdrawal or involuntary termination of a Party, the Party shall remain responsible for any claims, demands, damages, or liabilities arising from the Party's membership in the Authority through the date of its withdrawal or involuntary termination, it being agreed that the Party shall not be responsible for any claims, demands, damages, or liabilities arising after the date of the Party's withdrawal or involuntary termination. In addition, such

Party also shall be responsible for any costs or obligations associated with the Party's participation in any program in accordance with the provisions of any agreements relating to such program provided such costs or obligations were incurred prior to the withdrawal of the Party. The Authority may withhold funds otherwise owing to the Party or may require the Party to deposit sufficient funds with the Authority, as reasonably determined by the Authority, to cover the Party's liability for the costs described above. Any amount of the Party's funds held on deposit with the Authority above that which is required to pay any liabilities or obligations shall be returned to the Party.

7.4 **Mutual Termination**. This Agreement may be terminated by mutual agreement of all the Parties; provided, however, the foregoing shall not be construed as limiting the rights of a Party to withdraw its membership in the Authority, and thus terminate this Agreement with respect to such withdrawing Party, as described in Section 7.1.

7.5 **Disposition of Property upon Termination of Authority**. Upon termination of this Agreement as to all Parties, any surplus money or assets in possession of the Authority for use under this Agreement, after payment of all liabilities, costs, expenses, and charges incurred under this Agreement and under any program documents, shall be returned to the then-existing Parties in proportion to the contributions made by each.

ARTICLE 8
MISCELLANEOUS PROVISIONS

8.1 **Dispute Resolution**. The Parties and the Authority shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. Should such efforts to settle a dispute, after reasonable efforts, fail, the dispute shall be settled by binding arbitration in accordance with policies and procedures established by the Board.

8.2 **Liability of Directors, Officers, and Employees**. The Directors, officers, and employees of the Authority shall use ordinary care and reasonable diligence in the exercise of their powers and in the performance of their duties pursuant to this Agreement. No current or former Director, officer, or employee will be responsible for any act or omission by another Director, officer, or employee. The Authority shall defend, indemnify and hold harmless the individual current and former Directors, officers, and employees for any acts or omissions in the scope of their employment or duties in the manner provided by Government Code Section 995 et seq. Nothing in this section shall be construed to limit the defenses available under the law, to the Parties, the Authority, or its Directors, officers, or employees.

8.3 **<u>Indemnification of Parties</u>.** The Authority shall acquire such insurance coverage as is necessary to protect the interests of the Authority, the Parties and the public. The Authority shall defend, indemnify and hold harmless the Parties and each of their respective Board or Council members, officers, agents and employees, from any and all claims, losses, damages, costs, injuries and liabilities of every kind arising directly or indirectly from the conduct, activities, operations, acts, and omissions of the Authority under this Agreement.

8.4 **<u>Amendment of this Agreement</u>**. This Agreement may be amended by an affirmative vote of the Board in which the minimum percentage vote and percentage voting shares, as described in Section 4.9.1, shall be no less than 67%. The Authority shall provide written notice to all Parties of amendments to this Agreement, including the effective date of such amendments. A Party shall be deemed to have withdrawn its membership in the Authority effective immediately upon the vote of the Board approving an amendment to this Agreement if the Director representing such Party has provided notice to the other Directors immediately preceding the Board's vote of the Party's intention to withdraw its membership in the Authority should the amendment be approved by the Board. As described in Section 7.3, a Party that withdraws its membership in the Authority in accordance with the above-described procedure may be subject to continuing liabilities incurred prior to the Party's withdrawal. In the event that the Authority decides to not implement the CCA Program, the minimum percentage vote of 67% shall be conducted in accordance with Section 4.10 rather than Section 4.9.1.

8.5 **<u>Assignment</u>**. Except as otherwise expressly provided in this Agreement, the rights and duties of the Parties may not be assigned or delegated without the advance written consent of all of the other Parties, and any attempt to assign or delegate such rights or duties in contravention of this Section 8.5 shall be null and void. This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Parties. This Section 8.5 does not prohibit a Party from entering into an independent agreement with another agency, person, or entity regarding the financing of that Party's contributions to the Authority, or the disposition of proceeds which that Party receives under this Agreement, so long as such independent agreement does not affect, or purport to affect, the rights and duties of the Authority or the Parties under this Agreement.

8.6 **<u>Severability</u>**. If one or more clauses, sentences, paragraphs or provisions of this Agreement shall be held to be unlawful, invalid or unenforceable, it is hereby agreed by the Parties, that the remainder of the Agreement shall not be affected thereby. Such clauses, sentences, paragraphs or provision shall be deemed reformed so as to be lawful, valid and enforced to the maximum extent possible.

8.7 **Further Assurances**. Each Party agrees to execute and deliver all further instruments and documents, and take any further action that may be reasonably necessary, to effectuate the purposes and intent of this Agreement.

8.8 **Execution by Counterparts**. This Agreement may be executed in any number of counterparts, and upon execution by all Parties, each executed counterpart shall have the same force and effect as an original instrument and as if all Parties had signed the same instrument. Any signature page of this Agreement may be detached from any counterpart of this Agreement without impairing the legal effect of any signatures thereon, and may be attached to another counterpart of this Agreement identical in form hereto but having attached to it one or more signature pages.

8.9 **Parties to be Served Notice**. Any notice authorized or required to be given pursuant to this Agreement shall be validly given if served in writing either personally, by deposit in the United States mail, first class postage prepaid with return receipt requested, or by a recognized courier service. Notices given (a) personally or by courier service shall be conclusively deemed received at the time of delivery and receipt and (b) by mail shall be conclusively deemed given 48 hours after the deposit thereof (excluding Saturdays, Sundays and holidays) if the sender receives the return receipt. All notices shall be addressed to the office of the clerk or secretary of the Authority or Party, as the case may be, or such other person designated in writing by the Authority or Party. Notices given to one Party shall be copied to all other Parties. Notices given to the Authority shall be copied to all Parties.

Exhibit A

To the
Joint Powers Agreement
Marin Energy Authority

-Definitions-

"AB 117" means Assembly Bill 117 (Stat. 2002, ch. 838, codified at Public Utilities Code Section 366.2), which created CCA.

"Act" means the Joint Exercise of Powers Act of the State of California (Government Code Section 6500 *et seq*.)

"Administrative Services Agreement" means an agreement or agreements entered into after the Effective Date by the Authority with an entity that will perform tasks necessary for planning, implementing, operating and administering the CCA Program or any other energy programs adopted by the Authority.

"Agreement" means this Joint Powers Agreement.

"Annual Energy Use" has the meaning given in Section 4.9.2.2.

"Authority" means the Marin Energy Authority.

"Authority Document(s)" means document(s) duly adopted by the Board by resolution or motion implementing the powers, functions and activities of the Authority, including but not limited to the Operating Rules and Regulations, the annual budget, and plans and policies.

"Board" means the Board of Directors of the Authority.

"CCA" or "Community Choice Aggregation" means an electric service option available to cities and counties pursuant to Public Utilities Code Section 366.2.

"CCA Program" means the Authority's program relating to CCA that is principally described in Sections 2.4 and 5.1.

"Director" means a member of the Board of Directors representing a Party.

"Effective Date" means the date on which this Agreement shall become effective and the Marin Energy Authority shall exist as a separate public agency, as further described in Section 2.1.

"Implementation Plan" means the plan generally described in Section 5.1.2 of this Agreement that is required under Public Utilities Code Section 366.2 to be filed with the

California Public Utilities Commission for the purpose of describing a proposed CCA Program.

“Initial Costs” means all costs incurred by the Authority relating to the establishment and initial operation of the Authority, such as the hiring of an Executive Director and any administrative staff, any required accounting, administrative, technical and legal services in support of the Authority’s initial activities or in support of the negotiation, preparation and approval of one or more Administrative Services Provider Agreements and Program Agreement 1. Administrative and operational costs incurred after the approval of Program Agreement 1 shall not be considered Initial Costs.

“Initial Participants” means, for the purpose of this Agreement, the signatories to this JPA as of May 5, 2010 including City of Belvedere, Town of Fairfax, City of Mill Valley, Town of San Anselmo, City of San Rafael, City of Sausalito, Town of Tiburon and County of Marin.

“Operating Rules and Regulations” means the rules, regulations, policies, bylaws and procedures governing the operation of the Authority.

“Parties” means, collectively, the signatories to this Agreement that have satisfied the conditions in Sections 2.2 or 3.2 such that it is considered a member of the Authority.

“Party” means, singularly, a signatory to this Agreement that has satisfied the conditions in Sections 2.2 or 3.2 such that it is considered a member of the Authority.

“Program Agreement 1” means the agreement that the Authority will enter into with an energy service provider that will provide the electricity to be distributed to customers participating in the CCA Program.

“Total Annual Energy” has the meaning given in Section 4.9.2.2.

<u>Exhibit B</u>

To the
Joint Powers Agreement
Marin Energy Authority

-List of the Parties-

City of American Canyon
City of Belvedere
City of Benicia
City of Calistoga
Town of Corte Madera
City of El Cerrito
Town of Fairfax
City of Larkspur
City of Lafayette
City of Mill Valley
City of Napa
City of Novato
City of Richmond
Town of Ross
Town of San Anselmo
City of San Pablo
City of San Rafael
City of Sausalito
City of St. Helena
Town of Tiburon
City of Walnut Creek
Town of Yountville
County of Marin
County of Napa

Appendix I. MCE's approval for inclusion of Contra Costa

MCE Clean Energy
My community. My choice.

1125 Tamalpais Avenue
San Rafael, CA 94901

1 (888) 632-3674
mceCleanEnergy.org

November 8, 2016

John Kopchik, Director of Conservation and Development
Contra Costa County
30 Muir Road
Martinez, CA 94553

Dear Mr. Kopchik:

As you may be aware, MCE is currently serving customers in many jurisdictions of Contra Costa County with clean electricity choices at competitive rates for customers. We have been in touch with staff representatives from the County and we are familiar with the technical study currently underway to consider community choice options in other parts of the county not currently served. As part of this process MCE has been asked to clarify what the cost and process would be for new jurisdictions interested in joining MCE.

To respond to this request the MCE Board recently held a Special Meeting to discuss the inclusion process and costs for new jurisdictions within the borders of Contra Costa County. We are pleased to inform you that our Board has approved a six-month "inclusion period" that would allow no-cost membership consideration if your membership application is completed between December 1, 2016 and May 31, 2017.

Membership application requirements are attached here and include the following:

- Adoption of a resolution requesting membership
- Adoption of the ordinance required by the Public Utilities Code Section 366.2(c) (10)
- Executed Memorandum of Understanding
- Signed request for load data from PG&E
- County assessor data for all building stock in jurisdiction
- Designation of a staff person from your county to serve as a liaison to MCE

If you are interested in submitting a membership application please notify Alex DiGiorgio, MCE's Community Development Manager, and he will assist you with any questions you may have as you complete the checklist. You can reach Alex by email at: adiorgio@mcecleanenergy.org or by phone at: 415-464-6031.

Please note that (1) adoption of your Ordinance to join MCE will be subject to approval by the MCE Board, and (2) MCE will conduct an economic feasibility analysis prior to approving membership. Also, if membership is approved, timing of procurement and customer enrollment would be determined by the MCE Board. We will remain in close contact with your county about the most likely target dates for each process.

To streamline communications and policy setting, participating jurisdictions may consolidate voting representation on the MCE Board. If you choose this option, the selected representative would have a weighted vote based on the combined customer load of all the jurisdictions which voted to consolidate.

We are happy to meet with you or your council to answer questions or provide additional information. We look forward to the opportunity to work with you on your membership application for MCE service. Please let me know if we can be of any further assistance.

Sincerely,

Dawn Weisz
CEO

Appendix J. EBCE's Joint Powers Agreement

East Bay Community Energy Authority

- Joint Powers Agreement –

Effective ______________

Among The Following Parties:

EAST BAY COMMUNITY ENERGY AUTHORITY

JOINT POWERS AGREEMENT

This Joint Powers Agreement ("Agreement"), effective as of _________, is made and entered into pursuant to the provisions of Title 1, Division 7, Chapter 5, Article 1 (Section 6500 *et seq*.) of the California Government Code relating to the joint exercise of powers among the parties set forth in Exhibit A ("Parties"). The term "Parties" shall also include an incorporated municipality or county added to this Agreement in accordance with Section 3.1.

RECITALS

1. The Parties are either incorporated municipalities or counties sharing various powers under California law, including but not limited to the power to purchase, supply, and aggregate electricity for themselves and their inhabitants.

2. In 2006, the State Legislature adopted AB 32, the Global Warming Solutions Act, which mandates a reduction in greenhouse gas emissions in 2020 to 1990 levels. The California Air Resources Board is promulgating regulations to implement AB 32 which will require local government to develop programs to reduce greenhouse gas emissions.

3. The purposes for the Initial Participants (as such term is defined in Section 1.1.16 below) entering into this Agreement include securing electrical energy supply for customers in participating jurisdictions, addressing climate change by reducing energy related greenhouse gas emissions, promoting electrical rate price stability, and fostering local economic benefits such as jobs creation, community energy programs and local power development. It is the intent of this Agreement to promote the development and use of a wide range of renewable energy sources and energy efficiency programs, including but not limited to State, regional and local solar and wind energy production.

4. The Parties desire to establish a separate public agency, known as the East Bay Community Energy Authority ("Authority"), under the provisions of the Joint Exercise of Powers Act of the State of California (Government Code Section 6500 *et seq*.) ("Act") in order to collectively study, promote, develop, conduct, operate, and manage energy programs.

5. The Initial Participants have each adopted an ordinance electing to implement through the Authority a Community Choice Aggregation program pursuant to California Public Utilities Code Section 366.2 ("CCA Program"). The first priority of the Authority will be the consideration of those actions necessary to implement the CCA Program.

6. By establishing the Authority, the Parties seek to:

   (a) Provide electricity rates that are lower or competitive with those offered by PG&E for similar products;

(b) Offer differentiated energy options (e.g. 33% or 50% qualified renewable) for default service, and a 100% renewable content option in which customers may “opt-up” and voluntarily participate;

(c) Develop an electric supply portfolio with a lower greenhouse gas (GHG) intensity than PG&E, and one that supports the achievement of the parties’ greenhouse gas reduction goals and the comparable goals of all participating jurisdictions;

(d) Establish an energy portfolio that prioritizes the use and development of local renewable resources and minimizes the use of unbundled renewable energy credits;

(e) Promote an energy portfolio that incorporates energy efficiency and demand response programs and has aggressive reduced consumption goals;

(f) Demonstrate quantifiable economic benefits to the region (e.g. union and prevailing wage jobs, local workforce development, new energy programs, and increased local energy investments);

(g) Recognize the value of workers in existing jobs that support the energy infrastructure of Alameda County and Northern California. The Authority, as a leader in the shift to a clean energy, commits to ensuring it will take steps to minimize any adverse impacts to these workers to ensure a “just transition” to the new clean energy economy;

(h) Deliver clean energy programs and projects using a stable, skilled workforce through such mechanisms as project labor agreements, or other workforce programs that are cost effective, designed to avoid work stoppages, and ensure quality;

(i) Promote personal and community ownership of renewable resources, spurring equitable economic development and increased resilience, especially in low income communities;

(j) Provide and manage lower cost energy supplies in a manner that provides cost savings to low-income households and promotes public health in areas impacted by energy production; and

(k) Create an administering agency that is financially sustainable, responsive to regional priorities, well managed, and a leader in fair and equitable treatment of employees through adopting appropriate best practices employment policies, including, but not limited to, promoting efficient consideration of petitions to unionize, and providing appropriate wages and benefits.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises, covenants, and conditions hereinafter set forth, it is agreed by and among the Parties as follows:

ARTICLE 1
CONTRACT DOCUMENTS

1.1 Definitions. Capitalized terms used in the Agreement shall have the meanings specified below, unless the context requires otherwise.

1.1.1 "AB 117" means Assembly Bill 117 (Stat. 2002, ch. 838, codified at Public Utilities Code Section 366.2), which created CCA.

1.1.2 "Act" means the Joint Exercise of Powers Act of the State of California (Government Code Section 6500 *et seq*.)

1.1.3 "Agreement" means this Joint Powers Agreement.

1.1.4 "Annual Energy Use" has the meaning given in Section 1.1.23.

1.1.5 "Authority" means the East Bay Community Energy Authority established pursuant to this Joint Powers Agreement.

1.1.6 "Authority Document(s)" means document(s) duly adopted by the Board by resolution or motion implementing the powers, functions and activities of the Authority, including but not limited to the Operating Rules and Regulations, the annual budget, and plans and policies.

1.1.7 "Board" means the Board of Directors of the Authority.

1.1.8 "Community Choice Aggregation" or "CCA" means an electric service option available to cities and counties pursuant to Public Utilities Code Section 366.2.

1.1.9 "CCA Program" means the Authority's program relating to CCA that is principally described in Sections 2.4 and 5.1.

1.1.10 "Days" shall mean calendar days unless otherwise specified by this Agreement.

1.1.11 "Director" means a member of the Board of Directors representing a Party, including an alternate Director.

1.1.12 "Effective Date" means the date on which this Agreement shall become effective and the East Bay Community Energy Authority shall exist as a separate public agency, as further described in Section 2.1.

1.1.13 "Ex Officio Board Member" means a non-voting member of the Board of Directors as described in Section 4.2.2. The Ex Officio Board Member may not serve on the Executive Committee of the Board or participate in closed session meetings of the Board.

1.1.14 "Implementation Plan" means the plan generally described in Section 5.1.2 of this Agreement that is required under Public Utilities Code Section 366.2 to be filed with the California Public Utilities Commission for the purpose of describing a proposed CCA Program.

1.1.15 "Initial Costs" means all costs incurred by the Authority relating to the establishment and initial operation of the Authority, such as the hiring of a Chief Executive Officer and any administrative staff, any required accounting, administrative, technical and legal services in support of the Authority's initial formation activities or in support of the negotiation, preparation and approval of power purchase agreements. The Board shall determine the termination date for Initial Costs.

1.1.16 "Initial Participants" means, for the purpose of this Agreement the County of Alameda, the Cities of Albany, Berkeley, Emeryville, Oakland, Piedmont, San Leandro, Hayward, Union City, Newark, Fremont, Dublin, Pleasanton and Livermore.

1.1.17 "Operating Rules and Regulations" means the rules, regulations, policies, bylaws and procedures governing the operation of the Authority.

1.1.18 "Parties" means, collectively, the signatories to this Agreement that have satisfied the conditions in Sections 2.2 or 3.1 such that it is considered a member of the Authority.

1.1.19 "Party" means, singularly, a signatory to this Agreement that has satisfied the conditions in Sections 2.2 or 3.1 such that it is considered a member of the Authority.

1.1.20 "Percentage Vote" means a vote taken by the Board pursuant to Section 4.12.1 that is based on each Party having one equal vote.

1.1.21 "Total Annual Energy" has the meaning given in Section 1.1.23.

1.1.22 "Voting Shares Vote" means a vote taken by the Board pursuant to Section 4.12.2 that is based on the voting shares of each Party described in Section 1.1.23 and set forth in Exhibit C to this Agreement. A Voting Shares vote cannot take place on a matter unless the matter first receives an affirmative or tie Percentage Vote in the manner required by Section 4.12.1 and three or more Directors immediately thereafter request such vote.

1.1.23 "Voting Shares Formula" means the weight applied to a Voting Shares Vote and is determined by the following formula:

(Annual Energy Use/Total Annual Energy) multiplied by 100, where (a) "Annual Energy Use" means (i) with respect to the first two years following the Effective Date, the annual electricity usage, expressed in kilowatt hours ("kWh"), within the Party's respective jurisdiction and (ii) with respect to the period after the second anniversary of the Effective Date, the annual electricity usage, expressed in kWh, of accounts within a Party's respective jurisdiction that are served by the Authority and (b) "Total Annual Energy" means the sum of all Parties' Annual Energy Use. The initial values for Annual Energy use are designated in Exhibit B and the initial voting shares are designated in Exhibit C. Both Exhibits B and C shall be adjusted annually as soon as reasonably practicable after January 1, but no later than March 1 of each year subject to the approval of the Board.

1.2 **<u>Documents Included</u>**. This Agreement consists of this document and the following exhibits, all of which are hereby incorporated into this Agreement.

Exhibit A: List of the Parties

Exhibit B: Annual Energy Use

Exhibit C: Voting Shares

1.3 **<u>Revision of Exhibits</u>**. The Parties agree that Exhibits A, B and C to this Agreement describe certain administrative matters that may be revised upon the approval of the Board, without such revision constituting an amendment to this Agreement, as described in Section 8.4. The Authority shall provide written notice to the Parties of the revision of any such exhibit.

ARTICLE 2
<u>FORMATION OF EAST BAY COMMUNITY ENERGY AUTHORITY</u>

2.1 **<u>Effective Date and Term</u>**. This Agreement shall become effective and East Bay Community Energy Authority shall exist as a separate public agency on December 1, 2016, provided that this Agreement is executed on or prior to such date by at least three Initial Participants after the adoption of the ordinances required by Public Utilities Code Section 366.2(c)(12). The Authority shall provide notice to the Parties of the Effective Date. The Authority shall continue to exist, and this Agreement shall be effective, until this Agreement is terminated in accordance with Section 7.3, subject to the rights of the Parties to withdraw from the Authority.

2.2 **Initial Participants**. Until December 31, 2016, all other Initial Participants may become a Party by executing this Agreement and delivering an executed copy of this Agreement and a copy of the adopted ordinance required by Public Utilities Code Section 366.2(c)(12) to the Authority. Additional conditions, described in Section 3.1, may apply (i) to either an incorporated municipality or county desiring to become a Party that is not an Initial Participant and (ii) to Initial Participants that have not executed and delivered this Agreement within the time period described above.

2.3 **Formation**. There is formed as of the Effective Date a public agency named the East Bay Community Energy Authority. Pursuant to Sections 6506 and 6507 of the Act, the Authority is a public agency separate from the Parties. The debts, liabilities or obligations of the Authority shall not be debts, liabilities or obligations of the individual Parties unless the governing board of a Party agrees in writing to assume any of the debts, liabilities or obligations of the Authority. A Party who has not agreed to assume an Authority debt, liability or obligation shall not be responsible in any way for such debt, liability or obligation even if a majority of the Parties agree to assume the debt, liability or obligation of the Authority. Notwithstanding Section 8.4 of this Agreement, this Section 2.3 may not be amended unless such amendment is approved by the governing boards of all Parties.

2.4 **Purpose**. The purpose of this Agreement is to establish an independent public agency in order to exercise powers common to each Party and any other powers granted to the Authority under state law to participate as a group in the CCA Program pursuant to Public Utilities Code Section 366.2(c)(12); to study, promote, develop, conduct, operate, and manage energy and energy-related climate change programs; and, to exercise all other powers necessary and incidental to accomplishing this purpose.

2.5 **Powers**. The Authority shall have all powers common to the Parties and such additional powers accorded to it by law. The Authority is authorized, in its own name, to exercise all powers and do all acts necessary and proper to carry out the provisions of this Agreement and fulfill its purposes, including, but not limited to, each of the following:

2.5.1 to make and enter into contracts, including those relating to the purchase or sale of electrical energy or attributes thereof;

2.5.2 to employ agents and employees, including but not limited to a Chief Executive Officer and General Counsel;

2.5.3 to acquire, contract, manage, maintain, and operate any buildings, works or improvements, including electric generating facilities;

2.5.4 to acquire property by eminent domain, or otherwise, except as limited under Section 6508 of the Act, and to hold or dispose of any property;

2.5.5 to lease any property;

2.5.6 to sue and be sued in its own name;

2.5.7 to incur debts, liabilities, and obligations, including but not limited to loans from private lending sources pursuant to its temporary borrowing powers such as Government Code Section 53850 *et seq*. and authority under the Act;

2.5.8 to form subsidiary or independent corporations or entities, if appropriate, to carry out energy supply and energy conservation programs at the lowest possible cost consistent with the Authority's CCA Program implementation plan, risk management policies, or to take advantage of legislative or regulatory changes;

2.5.9 to issue revenue bonds and other forms of indebtedness;

2.5.10 to apply for, accept, and receive all licenses, permits, grants, loans or other assistance from any federal, state or local public agency;

2.5.11 to submit documentation and notices, register, and comply with orders, tariffs and agreements for the establishment and implementation of the CCA Program and other energy programs;

2.5.12 to adopt rules, regulations, policies, bylaws and procedures governing the operation of the Authority ("Operating Rules and Regulations");

2.5.13 to make and enter into service, energy and any other agreements necessary to plan, implement, operate and administer the CCA Program and other energy programs, including the acquisition of electric power supply and the provision of retail and regulatory support services; and

2.5.14 to negotiate project labor agreements, community benefits agreements and collective bargaining agreements with the local building trades council and other interested parties.

2.6 **Limitation on Powers**. As required by Government Code Section 6509, the power of the Authority is subject to the restrictions upon the manner of exercising power possessed by the City of Emeryville and any other restrictions on exercising the powers of the Authority that may be adopted by the Board.

2.7 **Compliance with Local Zoning and Building Laws**. Notwithstanding any other provisions of this Agreement or state law, any facilities, buildings or structures located, constructed or caused to be constructed by the Authority within the territory of the Authority shall comply with the General Plan, zoning and building laws of the local jurisdiction within which the facilities, buildings or structures are constructed and comply with the California Environmental Quality Act ("CEQA").

2.8 Compliance with the Brown Act. The Authority and its officers and employees shall comply with the provisions of the Ralph M. Brown Act, Government Code Section 54950 *et seq*.

2.9 Compliance with the Political Reform Act and Government Code Section 1090. The Authority and its officers and employees shall comply with the Political Reform Act (Government Code Section 81000 *et seq.*) and Government Code Section 1090 *et seq*, and shall adopt a Conflict of Interest Code pursuant to Government Code Section 87300. The Board of Directors may adopt additional conflict of interest regulations in the Operating Rules and Regulations.

ARTICLE 3
AUTHORITY PARTICIPATION

3.1 Addition of Parties. Subject to Section 2.2, relating to certain rights of Initial Participants, other incorporated municipalities and counties may become Parties upon (a) the adoption of a resolution by the governing body of such incorporated municipality or county requesting that the incorporated municipality or county, as the case may be, become a member of the Authority, (b) the adoption by an affirmative vote of a majority of all Directors of the entire Board satisfying the requirements described in Section 4.12, of a resolution authorizing membership of the additional incorporated municipality or county, specifying the membership payment, if any, to be made by the additional incorporated municipality or county to reflect its pro rata share of organizational, planning and other pre-existing expenditures, and describing additional conditions, if any, associated with membership, (c) the adoption of an ordinance required by Public Utilities Code Section 366.2(c)(12) and execution of this Agreement and other necessary program agreements by the incorporated municipality or county, (d) payment of the membership fee, if any, and (e) satisfaction of any conditions established by the Board.

3.2 Continuing Participation. The Parties acknowledge that membership in the Authority may change by the addition and/or withdrawal or termination of Parties. The Parties agree to participate with such other Parties as may later be added, as described in Section 3.1. The Parties also agree that the withdrawal or termination of a Party shall not affect this Agreement or the remaining Parties' continuing obligations under this Agreement.

ARTICLE 4
GOVERNANCE AND INTERNAL ORGANIZATION

4.1 Board of Directors. The governing body of the Authority shall be a Board of Directors ("Board") consisting of one director for each Party appointed in accordance with Section 4.2.

4.2 Appointment of Directors. The Directors shall be appointed as follows:

4.2.1 The governing body of each Party shall appoint and designate in writing one regular Director who shall be authorized to act for and on behalf of the Party on matters within the powers of the Authority. The governing body of each Party also shall appoint and designate in writing one alternate Director who may vote on matters when the regular Director is absent from a Board meeting. The person appointed and designated as the regular Director shall be a member of the governing body of the Party. The person appointed and designated as the alternate Director shall also be a member of the governing body of the Party.

4.2.2 The Board shall also include one non-voting ex officio member as defined in Section 1.1.13 ("Ex Officio Board Member"). The Chair of the Community Advisory Committee, as described in Section 4.9 below, shall serve as the Ex Officio Board Member. The Vice Chair of the Community Advisory Committee shall serve as an alternate Ex Officio Board Member when the regular Ex Officio Board Member is absent from a Board meeting.

4.2.3 The Operating Rules and Regulations, to be developed and approved by the Board in accordance with Section 2.5.12 may include rules regarding Directors, such as meeting attendance requirements. No Party shall be deprived of its right to seat a Director on the Board.

4.3 **Terms of Office**. Each regular and alternate Director shall serve at the pleasure of the governing body of the Party that the Director represents, and may be removed as Director by such governing body at any time. If at any time a vacancy occurs on the Board, a replacement shall be appointed to fill the position of the previous Director in accordance with the provisions of Section 4.2 within 90 days of the date that such position becomes vacant.

4.4 **Quorum**. A majority of the Directors of the entire Board shall constitute a quorum, except that less than a quorum may adjourn a meeting from time to time in accordance with law.

4.5 **Powers and Function of the Board**. The Board shall conduct or authorize to be conducted all business and activities of the Authority, consistent with this Agreement, the Authority Documents, the Operating Rules and Regulations, and applicable law. Board approval shall be required for any of the following actions, which are defined as "Essential Functions":

4.5.1 The issuance of bonds or any other financing even if program revenues are expected to pay for such financing.

4.5.2 The hiring of a Chief Executive Officer and General Counsel.

4.5.3 The appointment or removal of an officer.

4.5.4 The adoption of the Annual Budget.

4.5.5 The adoption of an ordinance.

4.5.6 The initiation of resolution of claims and litigation where the Authority will be the defendant, plaintiff, petitioner, respondent, cross complainant or cross petitioner, or intervenor; provided, however, that the Chief Executive Officer or General Counsel, on behalf of the Authority, may intervene in, become party to, or file comments with respect to any proceeding pending at the California Public Utilities Commission, the Federal Energy Regulatory Commission, or any other administrative agency, without approval of the Board. The Board shall adopt Operating Rules and Regulations governing the Chief Executive Officer and General Counsel's exercise of authority under this Section 4.5.6.

4.5.7 The setting of rates for power sold by the Authority and the setting of charges for any other category of service provided by the Authority.

4.5.8 Termination of the CCA Program.

4.6 **Executive Committee**. The Board shall establish an Executive Committee consisting of a smaller number of Directors. The Board may delegate to the Executive Committee such authority as the Board might otherwise exercise, subject to limitations placed on the Board's authority to delegate certain Essential Functions, as described in Section 4.5 and the Operating Rules and Regulations. The Board may not delegate to the Executive Committee or any other committee its authority under Section 2.5.12 to adopt and amend the Operating Rules and Regulations or its Essential Functions listed in Section 4.5. After the Executive Committee meets or otherwise takes action, it shall, as soon as practicable, make a report of its activities at a meeting of the Board.

4.7 **Director Compensation**. Directors shall receive a stipend of $100 per meeting, as adjusted to account for inflation, as provided for in the Authority's Operating Rules and Regulations.

4.8 **Commissions, Boards and Committees**. The Board may establish any advisory commissions, boards and committees as the Board deems appropriate to assist the Board in carrying out its functions and implementing the CCA Program, other energy programs and the provisions of this Agreement. The Board may establish rules, regulations, policies, bylaws or procedures to govern any such commissions, boards, or committees and shall determine whether members shall be compensated or entitled to reimbursement for expenses.

4.9 **Community Advisory Committee**. The Board shall establish a Community Advisory Committee consisting of nine members, none of whom may be voting members of the Board. The function of the Community Advisory Committee shall be to advise the Board of Directors on all subjects related to the operation of the CCA Program as set forth in a work plan adopted by the Board of Directors from time to time, with the exception of personnel and litigation decisions. The Community Advisory Committee is advisory only, and shall not have decision-making authority, or receive any delegation of authority from the Board of Directors. The Board shall publicize the opportunity to serve on the Community Advisory Committee, and shall appoint members of the Community Advisory Committee from those individuals expressing interest in serving, and who represent a diverse cross-section of interests, skill sets and geographic regions. Members of the Community Advisory Committee shall serve staggered four-year terms (the first term of three of the members shall be two years, and four years thereafter), which may be renewed. A member of the Community Advisory Committee may be removed by the Board of Directors by majority vote. The Board of Directors shall determine whether the Community Advisory Committee members will receive a stipend and/or be entitled to reimbursement for expenses.

4.10 Chief Executive Officer. The Board of Directors shall appoint a Chief Executive Officer for the Authority, who shall be responsible for the day-to-day operation and management of the Authority and the CCA Program. The Chief Executive Officer may exercise all powers of the Authority, including the power to hire, discipline and terminate employees as well as the power to approve any agreement, if the expenditure is authorized in the Authority's approved budget, except the powers specifically set forth in Section 4.5 or those powers which by law must be exercised by the Board of Directors. The Board of Directors shall provide procedures and guidelines for the Chief Executive Officer exercising the powers of the Authority in the Operating Rules and Regulations.

4.11 General Counsel. The Board of Directors shall appoint a General Counsel for the Authority, who shall be responsible for providing legal advice to the Board of Directors and overseeing all legal work for the Authority.

4.12 Board Voting.

4.12.1 Percentage Vote. Except when a supermajority vote is expressly required by this Agreement or the Operating Rules and Regulations, action of the Board on all matters shall require an affirmative vote of a majority of all Directors on the entire Board (a "Percentage Vote" as defined in Section 1.1.20). A supermajority vote is required by this Agreement for the matters addressed by Section 8.4. When a supermajority vote is required by this Agreement or the Operating Rules and Regulations, action of the Board shall require an affirmative Percentage Vote of the specified supermajority of all Directors on the entire Board. No action can be taken by the Board without an affirmative Percentage Vote. Notwithstanding the foregoing, in the event of a tie in the Percentage Vote, an action may be approved by an affirmative "Voting Shares Vote," as defined in Section 1.1.22, if three or more Directors immediately request such vote.

4.12.2 Voting Shares Vote. In addition to and immediately after an affirmative percentage vote, three or more Directors may request that, a vote of the voting shares shall be held (a "Voting Shares Vote" as defined in Section 1.1.22). To approve an action by a Voting Shares Vote, the corresponding voting shares (as defined in Section 1.1.23 and Exhibit C) of all Directors voting in the affirmative shall exceed 50% of the voting share of all Directors on the entire Board, or such other higher voting shares percentage expressly required by this Agreement or the Operating Rules and Regulations. In the event that any one Director has a voting share that equals or exceeds that which is necessary to disapprove the matter being voted on by the Board, at least one other Director shall be required to vote in the negative in order to disapprove such matter. When a voting shares vote is held, action by the Board requires both an affirmative Percentage Vote and an affirmative Voting Shares Vote. Notwithstanding the foregoing, in the event of a tie in the Percentage Vote, an action may be approved on an affirmative Voting Shares Vote. When a supermajority vote is required by this Agreement or the Operating Rules and Regulations, the supermajority vote is subject to the Voting Share Vote provisions of this Section 4.12.2, and the specified supermajority of all Voting Shares is required for approval of the action, if the provision of this Section 4.12.2 are triggered.

4.13 Meetings and Special Meetings of the Board. The Board shall hold at least four regular meetings per year, but the Board may provide for the holding of regular meetings at more frequent intervals. The date, hour and place of each regular meeting shall be fixed by resolution or ordinance of the Board. Regular meetings may be adjourned to another meeting time. Special and Emergency meetings of the Board may be called in accordance with the provisions of California Government Code Section 54956 and 54956.5. Directors may participate in meetings telephonically, with full voting rights, only to the extent permitted by law.

4.14 Officers.

4.14.1 Chair and Vice Chair. At the first meeting held by the Board in each calendar year, the Directors shall elect, from among themselves, a Chair, who shall be the presiding officer of all Board meetings, and a Vice Chair, who shall serve in the absence of the Chair. The Chair and Vice Chair shall hold office for one year and serve no more than two consecutive terms, however, the total number of terms a Director may serve as Chair or Vice Chair is not limited. The office of either the Chair or Vice Chair shall be declared vacant and the Board shall make a new selection if: (a) the person serving dies, resigns, or ceases to be a member of the governing body of the Party that the person represents; (b) the Party that the person represents removes the person as its representative on the Board, or (c) the Party that he or she represents withdraws from the Authority pursuant to the provisions of this Agreement.

4.14.2 Secretary. The Board shall appoint a Secretary, who need not be a member of the Board, who shall be responsible for keeping the minutes of all meetings of the Board and all other official records of the Authority.

4.14.3 Treasurer and Auditor. The Board shall appoint a qualified person to act as the Treasurer and a qualified person to act as the Auditor, neither of whom needs to be a member of the Board. The same person may not simultaneously hold both the office of Treasurer and the office of the Auditor of the Authority. Unless otherwise exempted from such requirement, the Authority shall cause an independent audit to be made annually by a certified public accountant, or public accountant, in compliance with Section 6505 of the Act. The Treasurer shall act as the depositary of the Authority and have custody of all the money of the Authority, from whatever source, and as such, shall have all of the duties and responsibilities specified in Section 6505.5 of the Act. The Board may require the Treasurer and/or Auditor to file with the Authority an official bond in an amount to be fixed by the Board, and if so requested, the Authority shall pay the cost of premiums associated with the bond. The Treasurer shall report directly to the Board and shall comply with the requirements of treasurers of incorporated municipalities. The Board may transfer the responsibilities of Treasurer to any person or entity as the law may provide at the time.

4.15 **Administrative Services Provider**. The Board may appoint one or more administrative services providers to serve as the Authority's agent for planning, implementing, operating and administering the CCA Program, and any other program approved by the Board, in accordance with the provisions of an Administrative Services Agreement. The appointed administrative services provider may be one of the Parties. The Administrative Services Agreement shall set forth the terms and conditions by which the appointed administrative services provider shall perform or cause to be performed all tasks necessary for planning, implementing, operating and administering the CCA Program and other approved programs. The Administrative Services Agreement shall set forth the term of the Agreement and the circumstances under which the Administrative Services Agreement may be terminated by the Authority. This section shall not in any way be construed to limit the discretion of the Authority to hire its own employees to administer the CCA Program or any other program.

4.16 **Operational Audit**. The Authority shall commission an independent agent to conduct and deliver at a public meeting of the Board an evaluation of the performance of the CCA Program relative to goals for renewable energy and carbon reductions. The Authority shall approve a budget for such evaluation and shall hire a firm or individual that has no other direct or indirect business relationship with the Authority. The evaluation shall be conducted at least once every two years.

ARTICLE 5
IMPLEMENTATION ACTION AND AUTHORITY DOCUMENTS

5.1 Implementation of the CCA Program.

5.1.1 **Enabling Ordinance**. Prior to the execution of this Agreement, each Party shall adopt an ordinance in accordance with Public Utilities Code Section 366.2(c)(12) for the purpose of specifying that the Party intends to implement a CCA Program by and through its participation in the Authority.

5.1.2 Implementation Plan. The Authority shall cause to be prepared an Implementation Plan meeting the requirements of Public Utilities Code Section 366.2 and any applicable Public Utilities Commission regulations as soon after the Effective Date as reasonably practicable. The Implementation Plan shall not be filed with the Public Utilities Commission until it is approved by the Board in the manner provided by Section 4.12.

5.1.3 Termination of CCA Program. Nothing contained in this Article or this Agreement shall be construed to limit the discretion of the Authority to terminate the implementation or operation of the CCA Program at any time in accordance with any applicable requirements of state law.

5.2 Other Authority Documents. The Parties acknowledge and agree that the operations of the Authority will be implemented through various documents duly adopted by the Board through Board resolution or minute action, including but not necessarily limited to the Operating Rules and Regulations, the annual budget, and specified plans and policies defined as the Authority Documents by this Agreement. The Parties agree to abide by and comply with the terms and conditions of all such Authority Documents that may be adopted by the Board, subject to the Parties' right to withdraw from the Authority as described in Article 7.

5.3 Integrated Resource Plan. The Authority shall cause to be prepared an Integrated Resource Plan in accordance with CPUC regulations that will ensure the long-term development and administration of a variety of energy programs that promote local renewable resources, conservation, demand response, and energy efficiency, while maintaining compliance with the State Renewable Portfolio standard and customer rate competitiveness. The Authority shall prioritize the development of energy projects in Alameda and adjacent counties. Principal aspects of its planned operations shall be in a Business Plan as outlined in Section 5.4 of this Agreement.

5.4 Business Plan. The Authority shall cause to be prepared a Business Plan, which will include a roadmap for the development, procurement, and integration of local renewable energy resources as outlined in Section 5.3 of this Agreement. The Business Plan shall include a description of how the CCA Program will contribute to fostering local economic benefits, such as job creation and community energy programs. The Business Plan shall identify opportunities for local power development and how the CCA Program can achieve the goals outlined in Recitals 3 and 6 of this Agreement. The Business Plan shall include specific language detailing employment and labor standards that relate to the execution of the CCA Program as referenced in this Agreement. The Business Plan shall identify clear and transparent marketing practices to be followed by the CCA Program, including the identification of the sources of its electricity and explanation of the various types of electricity procured by the Authority. The Business Plan shall cover the first five (5) years of the operation of the CCA Program. The Business Plan shall be completed by the Authority no later than eight (8) months after the seating of the Authority Board of Directors. Progress on the implementation of the Business Plan shall be subject to annual public review.

5.5 Labor Organization Neutrality. The Authority shall remain neutral in the event its employees, and the employees of its subcontractors, if any, wish to unionize.

5.6 Renewable Portfolio Standards. The Authority shall provide its customers energy primarily from Category 1 eligible renewable resources, as defined under the California RPS and consistent with the goals of the CCA Program. The Authority shall not procure energy from Category 3 eligible renewable resources (unbundled Renewable Energy Credits or RECs) exceeding 50% of the State law requirements, to achieve its renewable portfolio goals. However, for Category 3 RECs associated with generation facilities located within its service jurisdiction, the limitation set forth in the preceding sentence shall not apply.

ARTICLE 6
FINANCIAL PROVISIONS

6.1 Fiscal Year. The Authority's fiscal year shall be 12 months commencing July 1 and ending June 30. The fiscal year may be changed by Board resolution.

6.2 Depository.

6.2.1 All funds of the Authority shall be held in separate accounts in the name of the Authority and not commingled with funds of any Party or any other person or entity.

6.2.2 All funds of the Authority shall be strictly and separately accounted for, and regular reports shall be rendered of all receipts and disbursements, at least quarterly during the fiscal year. The books and records of the Authority shall be open to inspection by the Parties at all reasonable times.

6.2.3 All expenditures shall be made in accordance with the approved budget and upon the approval of any officer so authorized by the Board in accordance with its Operating Rules and Regulations. The Treasurer shall draw checks or warrants or make payments by other means for claims or disbursements not within an applicable budget only upon the prior approval of the Board.

6.3 Budget and Recovery Costs.

6.3.1 Budget. The initial budget shall be approved by the Board. The Board may revise the budget from time to time through an Authority Document as may be reasonably necessary to address contingencies and unexpected expenses. All subsequent budgets of the Authority shall be prepared and approved by the Board in accordance with the Operating Rules and Regulations.

6.3.2 Funding of Initial Costs. The County shall fund the Initial Costs of establishing and implementing the CCA Program. In the event that the

CCA Program becomes operational, these Initial Costs paid by the County and any specified interest shall be included in the customer charges for electric services to the extent permitted by law, and the County shall be reimbursed from the payment of such charges by customers of the Authority. The Authority may establish a reasonable time period over which such costs are recovered. In the event that the CCA Program does not become operational, the County shall not be entitled to any reimbursement of the Initial Costs.

6.3.4 Additional Contributions and Advances. Pursuant to Government Code Section 6504, the Parties may in their sole discretion make financial contributions, loans or advances to the Authority for the purposes of the Authority set forth in this Agreement. The repayment of such contributions, loans or advances will be on the written terms agreed to by the Party making the contribution, loan or advance and the Authority.

ARTICLE 7
WITHDRAWAL AND TERMINATION

7.1 Withdrawal.

7.1.1 General Right to Withdraw. A Party may withdraw its membership in the Authority, effective as of the beginning of the Authority's fiscal year, by giving no less than 180 days advance written notice of its election to do so, which notice shall be given to the Authority and each Party. Withdrawal of a Party shall require an affirmative vote of the Party's governing board.

7.1.2 Withdrawal Following Amendment. Notwithstanding Section 7.1.1, a Party may withdraw its membership in the Authority following an amendment to this Agreement provided that the requirements of this Section 7.1.2 are strictly followed. A Party shall be deemed to have withdrawn its membership in the Authority effective 180 days after the Board approves an amendment to this Agreement if the Director representing such Party has provided notice to the other Directors immediately preceding the Board's vote of the Party's intention to withdraw its membership in the Authority should the amendment be approved by the Board.

7.1.3 The Right to Withdraw Prior to Program Launch. After receiving bids from power suppliers for the CCA Program, the Authority must provide to the Parties a report from the electrical utility consultant retained by the Authority comparing the Authority's total estimated electrical rates, the estimated greenhouse gas emissions rate and the amount of estimated renewable energy to be used with that of the incumbent utility. Within 30 days after receiving this report, through its City Manager or a person expressly authorized by the Party, any Party may immediately withdraw its membership in the Authority by providing written notice of withdrawal to the Authority if the report determines that any one of the following conditions exists: (1) the Authority is unable to provide total electrical rates, as part of its baseline offering to customers, that are equal to or lower than the incumbent utility, (2) the Authority is unable to provide electricity in a manner that has a lower greenhouse gas emissions rate than the incumbent utility, or (3) the Authority will use less qualified renewable energy than the incumbent utility. Any Party who withdraws from the Authority pursuant to this Section 7.1.3 shall not be entitled to any refund of the Initial Costs it has paid to the Authority prior to the date of withdrawal unless the Authority is later terminated pursuant to Section 7.3. In such event, any Initial Costs not expended by the Authority shall be returned to all Parties, including any Party that has withdrawn pursuant to this section, in proportion to the contribution that each made. Notwithstanding anything to the contrary in this Agreement, any Party who withdraws pursuant to this section shall not be responsible for any liabilities or obligations of the Authority after the date of withdrawal, including without limitation any liability arising from power purchase agreements entered into by the Authority.

7.2 Continuing Liability After Withdrawal; Further Assurances; Refund. A Party that withdraws its membership in the Authority under either Section 7.1.1 or 7.1.2 shall be responsible for paying its fair share of costs incurred by the Authority resulting from the Party's withdrawal, including costs from the resale of power contracts by the Authority to serve the Party's load and any similar costs directly attributable to the Party's withdrawal, such costs being limited to those contracts executed while the withdrawing Party was a member, and administrative costs associated thereto. The Parties agree that such costs shall not constitute a debt of the withdrawing Party, accruing interest, or having a maturity date. The Authority may withhold funds otherwise owing to the Party or may require the Party to deposit sufficient funds with the Authority, as reasonably determined by the Authority, to cover the Party's costs described above. Any amount of the Party's funds held by the Authority for the benefit of the Party that are not required to pay the Party's costs described above shall be returned to the Party. The withdrawing party and the Authority shall execute and deliver all further instruments and documents, and take any further action that may be reasonably necessary, as determined by the Board, to effectuate the orderly withdrawal of such Party from membership in the Authority. A withdrawing party has the right to continue to participate in Board discussions and decisions affecting customers of the CCA Program that reside or do business within the jurisdiction of the Party until the withdrawal's effective date.

7.3 Mutual Termination. This Agreement may be terminated by mutual agreement of all the Parties; provided, however, the foregoing shall not be construed as limiting the rights of a Party to withdraw its membership in the Authority, and thus terminate this Agreement with respect to such withdrawing Party, as described in Section 7.1.

7.4 Disposition of Property upon Termination of Authority. Upon termination of this Agreement as to all Parties, any surplus money or assets in possession of the Authority for use under this Agreement, after payment of all liabilities, costs, expenses, and charges incurred under this Agreement and under any Authority Documents, shall be returned to the then-existing Parties in proportion to the contributions made by each.

ARTICLE 8
MISCELLANEOUS PROVISIONS

8.1 **Dispute Resolution**. The Parties and the Authority shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. Before exercising any remedy provided by law, a Party or the Parties and the Authority shall engage in nonbinding mediation in the manner agreed upon by the Party or Parties and the Authority. The Parties agree that each Party may specifically enforce this section 8.1. In the event that nonbinding mediation is not initiated or does not result in the settlement of a dispute within 120 days after the demand for mediation is made, any Party and the Authority may pursue any remedies provided by law.

8.2 **Liability of Directors, Officers, and Employees**. The Directors, officers, and employees of the Authority shall use ordinary care and reasonable diligence in the exercise of their powers and in the performance of their duties pursuant to this Agreement. No current or former Director, officer, or employee will be responsible for any act or omission by another Director, officer, or employee. The Authority shall defend, indemnify and hold harmless the individual current and former Directors, officers, and employees for any acts or omissions in the scope of their employment or duties in the manner provided by Government Code Section 995 *et seq*. Nothing in this section shall be construed to limit the defenses available under the law, to the Parties, the Authority, or its Directors, officers, or employees.

8.3 **Indemnification of Parties**. The Authority shall acquire such insurance coverage as the Board deems necessary to protect the interests of the Authority, the Parties and the public. Such insurance coverage shall name the Parties and their respective Board or Council members, officers, agents and employees as additional insureds. The Authority shall defend, indemnify and hold harmless the Parties and each of their respective Board or Council members, officers, agents and employees, from any and all claims, losses, damages, costs, injuries and liabilities of every kind arising directly or indirectly from the conduct, activities, operations, acts, and omissions of the Authority under this Agreement.

8.4 **Amendment of this Agreement**. This Agreement may be amended in writing by a two-thirds affirmative vote of the entire Board satisfying the requirements described in Section 4.12. Except that, any amendment to the voting provisions in Section 4.12 may only be made by a three-quarters affirmative vote of the entire Board. The Authority shall provide written notice to the Parties at least 30 days in advance of any proposed amendment being considered by the Board. If the proposed amendment is adopted by the Board, the Authority shall provide prompt written notice to all Parties of the effective date of such amendment along with a copy of the amendment.

8.5 **Assignment**. Except as otherwise expressly provided in this Agreement, the rights and duties of the Parties may not be assigned or delegated without the advance written consent of all of the other Parties, and any attempt to assign or delegate such rights or duties in contravention of this Section 8.5 shall be null and void. This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Parties. This Section 8.5 does not prohibit a Party from entering into an independent agreement with another agency, person, or entity regarding the financing of that Party's contributions to the Authority, or the disposition of proceeds which that Party receives under this Agreement, so long as such independent agreement does not affect, or purport to affect, the rights and duties of the Authority or the Parties under this Agreement.

8.6 **Severability**. If one or more clauses, sentences, paragraphs or provisions of this Agreement shall be held to be unlawful, invalid or unenforceable, it is hereby agreed by the Parties, that the remainder of the Agreement shall not be affected thereby. Such clauses, sentences, paragraphs or provision shall be deemed reformed so as to be lawful, valid and enforced to the maximum extent possible.

8.7 **Further Assurances**. Each Party agrees to execute and deliver all further instruments and documents, and take any further action that may be reasonably necessary, to effectuate the purposes and intent of this Agreement.

8.8 **Execution by Counterparts**. This Agreement may be executed in any number of counterparts, and upon execution by all Parties, each executed counterpart shall have the same force and effect as an original instrument and as if all Parties had signed the same instrument. Any signature page of this Agreement may be detached from any counterpart of this Agreement without impairing the legal effect of any signatures thereon, and may be attached to another counterpart of this Agreement identical in form hereto but having attached to it one or more signature pages.

8.9 **Parties to be Served Notice**. Any notice authorized or required to be given pursuant to this Agreement shall be validly given if served in writing either personally, by deposit in the United States mail, first class postage prepaid with return receipt requested, or by a recognized courier service. Notices given (a) personally or by courier service shall be conclusively deemed received at the time of delivery and receipt and (b) by mail shall be conclusively deemed given 72 hours after the deposit thereof (excluding Saturdays, Sundays and holidays) if the sender receives the return receipt. All notices shall be addressed to the office of the clerk or secretary of the Authority or Party, as the case may be, or such other person designated in writing by the Authority or Party. In addition, a duplicate copy of all notices provided pursuant to this section shall be provided to the Director and alternate Director for each Party. Notices given to one Party shall be copied to all other Parties. Notices given to the Authority shall be copied to all Parties. All notices required hereunder shall be delivered to:

The County of Alameda

Director, Community Development Agency

224 West Winton Ave.
Hayward, CA 94612

With a copy to:

Office of the County Counsel
1221 Oak Street, Suite 450
Oakland, CA 94612

if to [PARTY No. ____]

Office of the City Clerk
____
____

Office of the City Manager/Administrator
____
____

Office of the City Attorney
____
____

if to [PARTY No._____]

Office of the City Clerk
____
____

Office of the City Manager/Administrator
____
____

Office of the City Attorney
____
____

ARTICLE 9
SIGNATURE

IN WITNESS WHEREOF, the Parties hereto have executed this Joint Powers Agreement establishing the East Bay Community Energy Authority.

By: ________________________________

Name: ______________________________

Title: _______________________________

Date: _______________________________

Party: ______________________________

EXHIBIT A

-LIST OF THE PARTIES

(This draft exhibit is based on the assumption that all of the Initial Participants will become Parties. On the Effective Date, this exhibit will be revised to reflect the Parties to this Agreement at that time.)-

-

DRAFT EXHIBIT B

-ANNUAL ENERGY USE

(This draft exhibit is based on the assumption that all of the Initial Participants will become Parties. On the Effective Date, this exhibit will be revised to reflect the Parties to this Agreement at that time.)

This Exhibit B is effective as of ________________.

Party	**kWh ([YEAR]*)**

*Data provided by PG&E

<u>DRAFT EXHIBIT C</u>

- VOTING SHARES

(This draft exhibit is based on the assumption that <u>all</u> of the Initial Participants will become Parties. On the Effective Date, this exhibit will be revised to reflect the Parties to this Agreement at that time.)

This Exhibit C is effective as of ____________________.

Party	**kWh ([YEAR]*)**	**Voting Share Section 4.11.2**
Total		

*Data provided by PG&E

Appendix K. EBCE's offer for inclusion of Contra Costa

EAST BAY community energy
The Power to Choose

February 21, 2017

John Kopchik
Director, Department of Conservation and Development
Contra Costa County
30 Muir Street
Martinez, CA 94553

Dear Mr. Kopchik:

This letter is in response to your request for East Bay Community Energy (EBCE) to indicate its desire to expand beyond Alameda County and its willingness to engage interested Contra Costa County jurisdictions as EBCE members. This letter also outlines the terms of EBCE membership.

As you may know, the EBCE Board of Directors met for the first time on January 30, 2017. During that meeting, the Board had a robust discussion on this topic and was strongly in favor of formally inviting Contra Costa County and its Cities to join EBCE. The general sense was that it would be an exciting and positive development to have a more regionally focused East Bay Community Choice Energy (CCE) program. Some EBCE Board members expressed a willingness to present at your upcoming Board of Supervisors and City Council meetings as Contra Costa County officials deliberate on which CCE option would be in the best interests of their constituents.

With regards to the terms of membership, the EBCE Board discussed each of the points your letter raised, and we can provide you the following feedback:

- ***Cost to Join:*** The Board agreed that there would be no cost for Contra Costa County jurisdictions to join the JPA. EBCE will absorb all of the initial launch expenses, including load data analysis, communications costs and noticing requirements. The Board believes these one-time costs are offset by the longer-term value of including Contra Costa County communities in order to form a larger, regional program. We do request, however, that new member jurisdictions identify appropriate municipal staff to assist in coordinating the JPA resolution and Agreement, passage of the CCE ordinance and help with local public outreach, such as organizing workshops and having a presence at community events.

- ***Required actions and steps in the membership process:*** The Board agreed that the steps for joining EBCE would be the same as for the Alameda County jurisdictions, namely that the prospective members must pass the required CCA ordinance, authorize access to their load data, hold at least two duly noticed public hearings, and pass the JPA resolution in order to become a party to the EBCE Joint Powers Agreement. A copy of the CCE ordinance, JPA Agreement and JPA resolution are attached for your reference. For the purposes of completing EBCE's implementation plan, conducting public outreach, and procuring power for customers in new member jurisdictions, we request that interested jurisdictions cast deciding votes by June 30, 2017. It should be noted that there will be additional opportunities to join EBCE in 2018, if that is preferred. See below for more information regarding timimg.

- ***Representation on EBCE Board:*** Each Contra Costa County jurisdiction choosing to join EBCE will have a seat on its Board, which is the same manner of representation as other Alameda County members. As you may know, EBCE has a two-tiered voting structure, the first being one-city/one-vote with simple majority to carry the vote. In this case, every jurisdiction will have one equal vote, and it is anticipated that most votes will proceed in this fashion. However, if at least three members call for a weighted vote, then each city's voting share would be determined by its electrical load; weighted votes may only be used to overturn an affirmative vote and may not be used to resurrect or overturn a negative vote. Please see Attachment 4 for a comparision of EBCE and CCCo jurisdictional loads. New Board members can be seated once the JPA resolution has been passed, and the first and second readings of the CCE ordinance are complete.

- ***Estimated date of service commencement:*** Your letter asked for a date when electric service could begin. As of this writing, it is likely that EBCE will begin serving Phase 1 customers (a subset of the total number of accounts) in Spring of 2018. Phase 2 customers, including additional Contra Costa County accounts, would be enrolled in the Summer or Fall of 2018. Cities that join after the June 30th deadline or in 2018 will be enrolled in Phase 3, likely to be the late Fall of 2018 or Spring of 2019.

The EBCE Board is excited about the prospect of creating a regional East Bay Community Energy program. A member of our Board and Alameda County interim staff will attempt to attend as many of your upcoming presentations as possible, including the Board of Supervisors meeting on March 21. If possible, we would very much like the opportunity to make a more formal presentation at that meeting if the Contra Costa County Board of Supervisors and staff are agreeable.

Finally, for the purposes of planning, it would be helpful to know how many Contra Costa County jurisdictions would be interested in joining EBCE. As noted above, we are requesting that the County and any interested cities complete their decision-making and passage of the required resolution and ordinance by June 30, 2017 if they are interested in a Spring/Summer 2018 enrollment period.

We hope this addresses your questions on behalf of Contra Costa County and interested cities. Please don't hesitate to contact us if you'd like to discuss any of these matters further.

Sincerely Yours,

Chris Bazar
Director, Alameda County Community Development Agency

Cc: EBCE Board of Directors

Attachments:

1) EBCE JPA Agreement and sample resolution
2) Copy of CCE ordinance
3) PG&E Attestation form for load data authorization
4) Load size / voting shares comparision by jurisdiction